DOCUMENT RESUME

ED 400 390 CE 072 686

AUTHOR Gray, L.; And Others
TITLE Labour Market Signals & Indicators. Education Research. Serial No. 15.
INSTITUTION Overseas Development Administration, London (England).
REPORT NO ISBN-0-902500-70-8
PUB DATE 96
NOTE 116p.
PUB TYPE Reports - Research/Technical (143)

EDRS PRICE MF01/PC05 Plus Postage.
DESCRIPTORS Adult Education; Developing Nations; Educational Needs; *Educational Planning; *Employment Projections; Employment Statistics; Foreign Countries; *Information Utilization; Labor Market; *Labor Needs; *Labor Supply; Needs Assessment; Postsecondary Education; Secondary Education; *Vocational Education
IDENTIFIERS Bangladesh; Cambodia; Costa Rica; Zimbabwe

ABSTRACT

A research project examined ways in which labor market signals and indicators were being used and might be used to identify needs that could be met through national Technical and Vocational Education and Training (TVET) systems. Three case studies were undertaken in Bangladesh, Zimbabwe, and Costa Rica. The studies used a matrix that identified on one axis a number of key user groups of Labor Market Information (LMI) and on the other axis a series of questions or issues. A fourth case study was undertaken in Cambodia, and investigated ways in which an LMI system might be established there. Findings indicated no clear patterns of reasons for collection of LMI. Most data were quantitative. Formal, quantitative labor market data were collected mainly by research units within government departments. In each country, several ministries collected their own LMI, without reference to each other and with much duplication of effort. The most common investigative technique was the postal questionnaire survey, supplemented by census information. Only limited examples were found of LMI being used to enhance the short- and medium-term responsiveness of TVET. The benefit most commonly cited of LMI at national and regional levels was in deciding whether and where to site new training institutions. International agencies were the main sources of intervention for improvement of the LMI system. Findings were used to develop a framework for an LMI system. (Appendixes include 87 references, an interview framework, and an example of a LMI schedule. (YLB)

****
* Reproductions supplied by EDRS are the best that can be made *
* from the original document. *
****

ED 400 390

EDUCATION RESEARCH

LABOUR MARKET SIGNALS & INDICATORS

Serial No. 15

U.S. DEPARTMENT OF EDUCATION
Office of Educational Research and Improvement
EDUCATIONAL RESOURCES INFORMATION CENTER (ERIC)
☐ This document has been reproduced as received from the person or organization originating it.
☐ Minor changes have been made to improve reproduction quality.
• Points of view or opinions stated in this document do not necessarily represent official OERI position or policy.

PERMISSION TO REPRODUCE AND DISSEMINATE THIS MATERIAL HAS BEEN GRANTED BY

G Larkby

TO THE EDUCATIONAL RESOURCES INFORMATION CENTER (ERIC)

L Gray, A M Warrender, P Davies, G Hurley, C Manton

BEST COPY AVAILABLE

Overseas Development Administration

CE 072 686

EDUCATION RESEARCH

LABOUR MARKET SIGNALS & INDICATORS

L Gray, A M Warrender, P Davies, G Hurley, C Manton

1996

Serial No. 15
ISBN: 0 902500 70 8

Overseas Development Administration

OVERSEAS DEVELOPMENT ADMINISTRATION

EDUCATION PAPERS

This is one of a series of Education Papers issued from time to time by the Education Division of the Overseas Development Administration. Each paper represents a study or piece of commissioned research on some aspect of education and training in developing countries. Most of the studies were undertaken in order to provide informed judgements from which policy decisions could be drawn, but in each case it has become apparent that the material produced would be of interest to a wider audience, particularly but not exclusively those whose work focuses on developing countries.

Each paper is numbered serially, and further copies can be obtained through the ODA's Education Division, 94 Victoria Street, London SW1E 5JL, subject to availability. A full list appears overleaf.

Although these papers are issued by the ODA, the views expressed in them are entirely those of the authors and do not necessarily represent the ODA's own policies or views. Any discussion of their content should therefore be addressed to the authors and not to the ODA.

LIST OF OTHER ODA EDUCATION PAPERS AVAILABLE

Serial No. 1	Pennycuick, David. 'SCHOOLS EFFECTIVENESS IN DEVELOPING COUNTRIES: A SUMMARY OF THE RESEARCH EVIDENCE' ISBN: 0 902500 61 9
Serial No. 2	Hough, J.R. 'EDUCATIONAL COST-BENEFIT ANALYSIS' ISBN: 0 902500 62 7
Serial No. 3	Gray, Lynton et al (Staff College) 'REDUCING THE COST OF TECHNICAL AND VOCATIONAL EDUCATION' ISBN: 0 902500 63 5
Serial No. 4	Williams, E. 1993 'REPORT ON READING ENGLISH IN PRIMARY SCHOOLS IN MALAWI' ISBN: 0 902500 64 3
Serial No. 5	Williams, E. 1993 'REPORT ON READING ENGLISH IN PRIMARY SCHOOLS IN ZAMBIA' ISBN: 0 902500 65 1
Serial No. 6	Lewin, Keith. 1993 'EDUCATION AND DEVELOPMENT: THE ISSUES AND THE EVIDENCE' ISBN: 0 902500 66 X
Serial No. 7	Penrose, Perran. 1993 'PLANNING AND FINANCING SUSTAINABLE EDUCATION SYSTEMS IN SUB-SAHARAN AFRICA' ISBN: 0 902500 67 8
Serial No. 8	(not issued)
Serial No. 9	Brock, C and Cammish, N.K. 1991 'EDUCATION RESEARCH: FACTORS AFFECTING FEMALE PARTICIPATION IN EDUCATION IN SIX DEVELOPING COUNTRIES'
Serial No. 10	Rogers, Alan. 1994 'USING LITERACY: A NEW APPROACH TO POST-LITERACY METHODS'
Serial No. 11	Mcgrath, S. King, K. et al. 1995 'EDUCATION AND TRAINING FOR THE INFORMAL SECTOR' Vol. and Vol. 2 - Case studies. Vol. 1 ISBN: 0 902500 59 7 Vol. 2 ISBN: 0 902500 60 0
Serial No. 12	Little, Angela. 1995 'MULTI-GRADE TEACHING: A REVIEW OF RESEARCH AND PRACTICE' ISBN: 0 902500 58 9
Serial No. 13	Bilham, T. Gilmour, R. 1995 'DISTANCE EDUCATION IN ENGINEERING FOR DEVELOPING COUNTRIES' ISBN: 0 902500 68 6
Serial No. 14	Barnett, E. de Koning, K. Francis, V. 1995 'HEALTH & HIV/AIDS EDUCATION IN PRIMARY & SECONDARY SCHOOLS IN AFRICA & ASIA' ISBN: 0 902500 69 4
Serial No. 16	Lubben, F. Campbell R. Dlamini B. 1995 'IN-SERVICE SUPPORT FOR A TECHNOLOGICAL APPROACH TO SCIENCE EDUCATION' ISBN:0 902500 71 6
Serial No. 17	Archer, D. Cottingham, S 1996 'ACTION RESEARCH REPORT ON REFLECT' ISBN: 0 902500 72 4
Serial No. 18	Kent, D.W. Mushi, P.S.D. 1995 'THE EDUCATION AND TRAINING OF ARTISANS FOR THE INFORMAL SECTOR IN TANZANIA' ISBN: 0 902500 74 0

All available free of charge from ODA Education Division, 94 Victoria Street, London SW1E 5JL

TABLE OF CONTENTS

	Page
ACKNOWLEDGEMENTS	1
EXECUTIVE SUMMARY	2
CHAPTER 1: INTRODUCTION	5
Definitions	6
CHAPTER 2: REVIEW OF RECENT RESEARCH LITERATURE	8
CHAPTER 3: THE CASE STUDIES: SELECTION CRITERIA AND METHODS EMPLOYED	20
CHAPTER 4: THE FOUR CASE STUDIES	22
A: LABOUR MARKET ANALYSIS IN BANGLADESH	22
Economic Background	22
Labour Market Information	23
Vocational and Technical Education	26
Employers and Employer Organisations	27
The Applications of LMI	28
Improving the Responsiveness of TVET	30
B: LABOUR MARKET ANALYSIS IN COSTA RICA	32
The economy	32
The Labour Market	32
INA	33
The Ministry of Education	36
Other Ministries	37
The *Camaras*	38
The Employers	39
Labour Market Information: some conclusions	39
Data collection	40
Analysing and utilising data	41
Training needs	41
C: LABOUR MARKET ANALYSIS IN ZIMBABWE	42
The economy	42
Economic Structural Adjustment Programme (ESAP)	43
Labour Market Information	44
Vocational and Technical Education	47
Applications of LMI	49

Page

D: KINGDOM OF CAMBODIA - A UNIQUE OPPORTUNITY TO CREATE A TAILOR-MADE LMI SYSTEM 51

Background 51
Current Status of Human Resources Development 52
Key issues 53
Government policies and plans 55
Putting an integrated LMIS in place 56
The first steps 58

CHAPTER 5: KEY FINDINGS FROM THE CASE STUDIES 60

Why is LMI collected? 60
What LMI is collected? 60
Who collects LMI? 61
What techniques are used for LMI collection and analysis? 62
Who uses LMI? 63
Who benefits from LMI? 64
What are the costs of LMI collection and analysis? 65
What are the training needs of collectors and users of LMI? 65
How is the LMI system currently being improved? 65

CHAPTER 6: MAIN LESSONS FROM THE RESEARCH 66

Technical problems 67
Political and structural problems 68
A framework for a labour market information system 69
Promoting the use of labour market signals and indicators 73

CHAPTER 7: CONCLUSIONS 77

LMI interventions within decentralised systems 78
LMI interventions within centrally managed systems 79

REFERENCES 82

APPENDIX ONE: **UNITED KINGDOM EXPERIENCES**

APPENDIX TWO: **INTERVIEW FRAMEWORK**

APPENDIX THREE: **AN EXAMPLE OF A LABOUR MARKET INFORMATION SCHEDULE**

APPENDIX FOUR: **THE BANGLADESH EDUCATION SYSTEM**

ACKNOWLEDGEMENTS

The writers would like to express their appreciation for the assistance during the project visits provided in Bangladesh by David Clarke, First Secretary (Education) at the British High Commission, Dhaka and to Dr Osman Haider Chowdhury, of the Bangladesh Institute of Development Studies (BIDS), for his efficiency in helping to arrange the schedule, and his invaluable support in carrying out the interviews; in Costa Rica by Christina Green, Hermann Steffen and Elliott Greenspan, and to Snr. Arnoldo Quesada Sota and his colleagues at INA; and in Zimbabwe by Simon Matsvai and his colleagues at Symacon (Pvt) Ltd in arranging schedules, organising relevant contacts and carrying out additional interviews, as well as to Mike Edwards at the British High Commission in Zimbabwe; and to the many individuals in all three countries who gave so freely of their time for interviews.

The team also wishes to express its thanks to Veronica Vaughan and Sylvia Alereza at the Further Education Development Agency for their contributions to the administration of the project, the translation of relevant documents, and the preparation of this research paper and earlier reports.

EXECUTIVE SUMMARY

1. Major benefits can be derived from relatively small and low-cost improvements in the provision of labour market information (LMI), derived from the more effective uses of labour market signals and indicators.

2. These benefits are only achievable if both demand-side and supply-side organisations have the technical capacity, awareness and the will to make use of LMI in order to improve TVET provision.

3. Such benefits are most likely to be achieved if cooperation and support in the collection and analysis of LMI are obtained from the wide range of intermediate organisations with a stake in a more responsive TVET system.

4. The increasing global significance of the informal employment sector point to the need for decentralised labour market analysis systems and local provision responsive to the sector's changing needs.

5. Preparations for any TVET investment project should include an analysis of the capacity of TVET organisations to make use of LMI. This analysis should incorporate:

   - the extent to which institutional autonomy enables curriculum provision to be adjusted to meet labour market needs and income from activities which meet these needs to be retained at institutional level;

   - their technical capacity to collect, analyze and interpret appropriate information; and

   - their organisational capacity to make use of this information, once analyzed, in planning appropriate curricula and deciding on longer term strategies and investment plans.

6. Where this analysis identifies that training institutions meet the above criteria, they should be supported in five areas:

   - awareness of the value of LMI;

   - design of appropriate LMI systems;

   - training to acquire low cost techniques for collecting LMI;

   - training in (and, where appropriate, software for) the analysis and interpretation of LMI; and

- the development of management skills so that LMI might inform institutional policies, improve responsiveness and reform training programmes.

7. Development strategies are required which encourage both employers and government agencies and departments to recognise the benefits to themselves of more responsive training organisations - and the role that the provision of appropriate LMI can play in that.

8. Governmental and other central agencies (such as employer associations) should concentrate on strategies which take account of longer term needs and national/global trends, which complement local LMI and provide clear advice and guidance to training organisations.

9. Support should be provided for government and other appropriate agencies in the techniques of collecting, analyzing and interpreting LMI - support focused on the researchers and other technical staff involved in manpower planning and labour market analysis.

10. Support is also required for those with responsibility for using the outcomes of labour market research in order to plan TVET responses to labour market trends and needs.

11. The wide variety of central organisations currently collecting LMI should be strongly encouraged to work together in coordinating efforts, avoiding duplication and sharing outcomes. Where appropriate, a labour market research unit, independent of specific government departments, should be promoted as the most effective means for coordinating existing initiatives.

12. Training provision should include the skills required for efficient data collection using both qualitative and quantitative methods. Training in suitable sampling techniques should increase the reliability (and perhaps reduce the collection costs) of both qualitative and quantitative data. Training in qualitative techniques should include newspaper scanning in terms of job opportunities and wage levels, the effective uses of key informants, the informal gathering of market intelligence, and forecasting techniques based on scenarios projected from national and international policies and trends.

13. Training is required, not only in the use of the appropriate computer technologies but also in those analytical skills which can bring together diverse signals and indicators and draw from them meaningful trends and conclusions. Training programmes for staff from different countries involved in the processing and interpretation of data can reveal the extent to which the skills and approaches promoted through such training are transferable across different national systems.

14. Access to new data analysis technologies in terms of both hardware (computers and networks) and software (data analysis packages) can, when accompanied by relevant training, shorten analysis times and help countries leapfrog some of the barriers arising from insufficient technical staff with statistical skills.

15. Aid projects should include strategies which influence, support and educate decision makers in the uses of LMI. These should include placements, work shadowing and study visits.

16. Consultants working in and with TVET institutions should work to develop good links with employers and their associations and train local staff to gather labour market intelligence which contributes to the curriculum development processes.

CHAPTER 1: INTRODUCTION

1. This research paper is based upon the two reports from a research project undertaken by The Staff College (since April 1995 part of the Further Education Development Agency) for the Overseas Development Administration (ODA) in 1994-95. The project examined ways in which labour market signals and indicators are being and might be used to identify needs which might be met through national vocational and technical education and training (TVET) systems.

2. A central economic development problem throughout the world is that of improving the linkages between training providers and their clients in business and industry. Economic development demands that the labour market is supplied with new skills as the economy grows and industry is re-structured. This places demands on the public and private sector organisations responsible for skill development. Cost-effective technical/vocational education and training requires both understanding of and involvement with local business and industry. There is now considerable dissatisfaction with the payback on the enormous investment in the development of technical and vocational education and training systems over the past two decades. At the heart of the criticisms is the inability of enterprises to invest in training and of training providers to make significant tangible contributions to economic progress. The lack of responsiveness to industrial and commercial needs is a major characteristic of these complaints. Throughout the world, in both industrialised and developing countries, the complaint is heard that training providers do not deliver the skills required by business and industry.

3. The central thesis addressed in this paper is that established, highly quantitative approaches to the collection of LMI for manpower planning purposes have failed to provide the evidence by which TVET systems might be made more responsive to the needs of the labour markets and the local, regional and national economies within which they operate. An earlier report to the ODA, focusing on cost reduction in technical and vocational education (Gray *et al* 1993), recommended that attention be paid to simple, locally applied approaches using labour market signals and indicators as a basis for steering TVET reform. This drew upon the *volte face* by the Population and Human Resources Department at the World Bank in the early 1990s, when in a highly influential policy paper (World Bank, 1991) it rejected the manpower planning approaches it had been advocating for three decades as a pre-requirement for aid programmes, and supported the use of labour market signals and indicators (see Middleton, Ziderman & Van Adams, 1993).

4. The research project tested three aspects of that change:

   - are labour market signals and indicators now being used in place of traditional manpower planning approaches;

   - are there infrastructures in place to collect and make use of such signals and indicators; and

- how might developing countries make more effective uses of such indicators in planning and reforming TVET systems?

5. This paper tries to recognise both the complexity of labour market information and the multiple purposes to which it can be applied. TVET is only such purpose, although the prime focus of this research. Within TVET there are many potential users with very different needs. Civil servants, college managers, employers, professionals within donor agencies and NGOs, as well as students, trainees and unemployed workers all require labour market information for different purposes. The extent to which such data is both available and useful varies considerably from country to country. This paper attempts to recognise these multiple users and uses, and to extend its analysis to the commonly neglected informal sector of the economy. In doing so it focuses on some common issues found in four countries with far more differences than commonalities, in terms of their greatly contrasted cultures, sizes, geographical locations and stages of economic development.

6. The paper comprises an initial literature review (Chapter 2), followed by a review of the methodology employed in four national case studies (Chapter 3) and those case studies (Chapter 4). A summary of their key findings in (Chapter 5) is followed by some key lessons from the research (Chapter 6), and some conclusions on ways in which labour market signals and indicators might be used more effectively to improve the effectiveness of technical and vocational education and training systems. Appendices provide an overview of recent developments in the United Kingdom (using the Training & Enterprise Councils as vehicles for economic regeneration linking training providers and the employment market), as well as details of the research approaches.

Definitions

7. There is little precision in the terminology employed in the literature on labour market analysis and manpower planning. Current thinking demonises 'manpower planning', when it is only long-term manpower needs forecasting in over-ambitious detail (specifying the numbers of plumbers or architects needed ten years hence) which has been demonstrated as unworkable. Paradoxically, it is often the lack of detail, as for example in the knowledge and skill components of particular occupations such as plumbing and architecture, which makes these long-term forecasts unusable. Planning *per se* is not the problem, but is the logical purpose of and outcome from the processes of data collection and analysis.

8. The project team felt it would be useful to attempt some definitions of the key terms as they are used throughout this report, which demonstrate these distinctions.

Labour market signals: discrete pieces of raw evidence, whether quantitative or qualitative.

Labour market indicators: several signals, which, when processed together, imply a trend or direction.

Labour market intelligence: 'soft' data, derived from word of mouth, the media, etc. Contrasted with both statistical data and research-based evidence.

Labour market information (LMI): the total package of labour market signals, indicators and intelligence.

Labour market information system (LMIS): labour market information concerning all levels of manpower inclusive of unskilled and crafts people, technical and professional staff and managers, organised for a specific purpose. Its components are defined more fully in Chapter 6 below.

Labour market analysis: the processes whereby labour market information is reviewed, manipulated and related to other sources of information in order to identify trends, directions and needs.

Manpower planning: the planning activities which use the findings of labour market analysis and other sources in order to determine policies for industrial location and change; training and educational provision; determining labour force skill and qualification needs; and the management of labour recruitment and reductions, migration, working conditions and wages levels.

CHAPTER 2: REVIEW OF RECENT RESEARCH LITERATURE

9. In this chapter recent documentation on labour market signalling and manpower needs forecasting is reviewed critically. The primary documentation under review dates back no further than 1989 although secondary references are included dating back to 1970. It concentrates on the outputs of the World Bank and ILO since 1989 and includes summary reviews of some key texts, tracing the analytical work which has led to important changes in perceptions and expectations of labour information, as long-standing manpower requirements forecasting/techniques have become discredited.

Changes in the perception and expectations of labour market information (signals and indicators)

10. There are three major issues related to the approach to labour market information which dominate recent international literature on the subject. Firstly, there is the long running dispute between the protagonists of the Manpower Requirements approach - a technique which is still highly regarded by many planners around the world - and labour economists who support the more recently developed signalling methods, designed to produce indicators more related to quality issues than for use in quantitative forecasting.

11. Secondly, there is the problem faced by the *laissez faire* perspective adopted by countries which still rely on a supply-dominated approach to the preparation of labour market entrants. Once denounced as the major cause of educated unemployment, recent research is tending to favour a balanced understanding between the realities of labour market demand and the obligations of governments to respect social expectations.

12. Finally, a review of the available documentation clearly emphasises the need for training at all levels of the labour market information system. It is not only the data gatherers who need professional enhancement but also the analysts, those responsible for storage and retrieval of information, and, last but by no means least, the end users, be they government macro level planners, politicians, local government officials, enterprise managers, trainers or educators, who need to know how to interpret and use the assembled information.

13. Also evident from the review of relevant literature is the prominence of labour market experiences quoted from three developing countries: Indonesia, Malaysia and Tanzania. While other countries (Mauritius, Philippines etc.) may get passing mention, the country acknowledgements in both the text and the reference lists indicate that most of the prominent labour market economists reviewed here have worked in one or more of the three countries.

Manpower requirements v labour market signalling

14. The term "manpower requirements approach" implies the use of statistical inputs from economic sources in order to establish present and future demand for manpower by educational and occupational categories. This data is then compared with the output expected from the supply of manpower to the labour market - the difference indicating either a surplus, with a consequent need to cut back on education or training in selected subjects; or a deficiency requiring further investment in relevant areas of manpower development (Godfrey 1991). This approach was widely advocated during the 1960s and 1970s and became an immediate favourite with many planners, because of an initial impression of respectability, due in part to its overt reliance on statistical data and an apparent logical process of deduction.

15. Manpower forecasting became a number crunching exercise, occupying the time of large numbers of economic statisticians and social researchers, with claims that indicated an ability to determine the manpower requirements of each occupational area for a particular city, region or country - with an accuracy calculated in some cases down to tens or even units (see Indonesian Education Sector Review 1986, and Philippine National Manpower and Youth Council regional manpower plans as recently as 1991). Such forecasts were, and still are used to influence labour and educational policies at national and/or regional levels and played a major role in justifying budgetary expenditures (Clark 1986).

16. As early as the 1970s, voices were raised in concern over the "slavish adherence to unreal assumptions" (Blaug 1970) but still the practice gathered momentum. By the mid 1980s many more economists were raising alarm signals that the manpower requirements approach was neither accurate nor reliable (Dougherty 1983, Psacharopoulos 1983, Amjad 1985, Hollister 1983 & 1986, Clark 1986). It was found that the approach "distorted the true nature of manpower problems facing the developing world - ie. the provision of sufficiently productive employment to an increasing number of the labour force consequent on population increase" (Hasibaun 1986).

17. It was also too conceptually restrictive, "failing to recognise that organisations with a functioning feedback system could and did identify shortfalls, taking effective action to overcome them" (Hasibaun 1986). Nevertheless, despite increasing evidence against the technique, the World Bank found that "most [*of its*] requests for education loans and most project appraisals were based on the grounds of manpower requirements" (Psacharopoulos and Woodhall 1985). Even as late as 1991 some National Manpower andYouth Council (NMYC) officials in the Philippines were arguing that the only thing wrong with the numerical approach to manpower forecasting was the NMYC's previous inability to process the available data fast enough to provide uniform, coordinated recommendations. Hence the inclusion in the World Bank VTP II Project of requests for a mini-computer and large numbers of fast desktop computers for use by regional manpower offices.

18. Reasons for the gross unreliability of manpower requirements approaches mainly stem from the inadequacies of its data base. Labour force surveys, the mainstay of the approach, are dependent upon relatively untrained and non-specialist enumerators. Even so the data

itself is too aggregated, with much inevitable confusion over the demarcations of occupational classifications and skill levels (Godfrey 1991, Richter 1992). Little agreement exists on the use of acceptable definitions for employment categories such as "supervisors", "technologists", "technicians" or even "skilled workers" (ILO 1991).

19. But the final obstacle to the success of the approach comes from an increasing recognition that most medium and large scale companies operate an internal labour market, preferring to hire unskilled workers and to train them on the job. Increasing recognition that this practice is widespread and preferred by most employers makes the traditional manpower requirements approach redundant. Instead, it highlights the need for broader, more effective general educational preparation rather than the provision of specific, pre-employment vocational skills (Clark 1986, World Bank Policy Paper 1991).

20. The need for a "new approach to manpower planning" emerges in a World Bank Staff Working Paper (Psacharopoulos et al 1983) and in ILO research (Richter & Mason 1985, Richter 1989, Amjad et al 1990). Central to the new approach is the recognition that "planning" is a misnomer, conjuring up thoughts of central mobilisation and disbursement of resources (ILO 1991). "The art of manpower planning is certainly in disarray - 'planning' is becoming a word to avoid" (Psacharopoulos 1991). In place of manpower "planners" there is a new emphasis on manpower "analysts" who are more concerned with equity and efficiency (Richter 1989).

21. Using a variety of systems designed to signal or highlight significant trends in the labour market at either national, regional or locals levels, the resultant indicators are used to make decisions which improve the efficiency and efficacy of the supply side, and which have beneficial influences on the performance of the labour market or the demand side. To achieve this balance requires the use of methodologies designed to take into account such diverse issues as social benefits, educational investment, and training costs, all the while ensuring that the results are responsive to changing economic conditions (Middleton, Ziderman & van Adams 1993).

22. Recognition that movements in such items as wages or terms of employment can serve as important signals of change in the demand and supply of skilled labour was to gain prominence in the mid 1980s. This recognition also established the importance of observing "trends" rather than attempting precise quantification (ILO 1988). More importantly, labour market signalling focused on education and training qualifications rather than occupational classifications, which had been the main concern of old-style manpower planners (Amjad et al 1990, Godfrey 1991). The need for this change in emphasis was supported by rapid technological advancements which made skills more important than occupations in a rapidly changing workplace (ILO 1988). The weakness of the link between skill specialisation and occupational placement, which was the main purpose of the manpower requirements approach, was clearly demonstrated by reverse tracer studies undertaken in the Philippines (Arcelo & Sanyal 1987).

23. In contrast to the previous emphasis on occupations, the new labour market signalling techniques are concerned with economic outcomes measured in terms of wages and employment which can be compared with the costs of specific education and/or training programmes involved (Hinchliffe & Youdi 1993). This provides a basis for determining desirable levels of public and private sector spending on education and training, while the results can be directly linked to productivity (Middleton, Ziderman & van Adams 1993).

24. The identification and interpretation of labour market signals requires a basic understanding of the analytical processes which can be applied to labour market supply and demand. It also implies the availability of reliable labour market data for:

a) guiding private training decisions (basic information required includes - wage rises, job vacancy rates, graduate placements, enrolment data;

b) managing training systems (basic information required includes - reverse tracer studies, cost comparisons of alternative paths, rates of return, measurements of cost effectiveness, experiences of new industries, productivity rates);

c) improving labour market efficiency (basic information required - wage levels, non-productivity-related wage differentials, evidence of labour mobility, public subsidies for training, labour market segmentation, labour codes, obstacles to wage flexibility); and

d) planning public investments in training (basic information required - private training capacity, balance of skills demand and supply, market imperfections, structural changes) (van Adams, Middleton & Ziderman 1992).

25. Household and establishment surveys provide the major source of modern day labour market information but these may need adaptation to suit the specific requirements of manpower planning (Richter 1989). Tracer studies, particularly reverse tracer studies of employees and trainees, can be designed to meet specific data requirements. Studies to identify training or educational costs can also be commissioned. CEDEFOP makes a strong case for setting up a network of longitudinal studies, although recognition is given to the difficulties of accomplishing this in developing countries (CEDEFOP 1993). However, a more permanent information pipeline is needed for those responsible for short term planning and policy-making such as college principals or training managers.

26. Promoting local linkages and information networks between suppliers and employers is essential (Amjad et al 1990, Godfrey 1991). One example of such a local system is based on "key informants"; people who can be used to regularise the data flow. Key informants are selected persons whose occupation, position or responsibility, in the public or private sector, give them intimate knowledge of local manpower and employment trends. Identifying such persons and designing a system of structured questionnaires and interviews which are to be conducted at regular intervals, produces a low cost but effective and responsive labour market information system (Richter & Mason 1985, Richter 1991).

27. Another similar technique which can also provide regular data relevant to labour market analysis is the "industrial targeting strategy" in which particular enterprises are selected to be representative of a particular industrial sector or sub-sector. Each selected enterprise is encouraged to make regular returns of selected data from which overall trends and indicators can be deduced (Hollister & Kam 1990).

28. Although most international institutions favour the new and more flexible approaches to manpower data with its emphasis on analysis rather than planning *per se*, there remain those who still argue that the manpower requirements approach is not entirely negative. Given better resources and a fresh start, it is argued, there are good results which may be obtained from the quantitative planning approach (Colclough 1989). Others suggest that since so many planners still adhere to its principles, some attempt must be made to salvage what is usable in the technique and incorporate those parts into the less dogmatic signalling process (Godfrey 1991).

Market forces and un-checked supply driven systems

29. Over the past decade there has been much criticism of countries which allowed their educational systems to concentrate on social expectations rather than specific labour market demand. The prevailing parental view that blue collar jobs are of lesser value than white collar jobs has been blamed for a surfeit of over-qualified but unemployed (or under-employed) workers throughout Africa, Asia and Latin America (Muqtada 1991). Public educational systems frequently offer subsidised programmes at various levels of post-secondary education, irrespective of employment opportunities. Evidence of Sri Lankan taxi drivers with PhDs (Kelly & Culler 1990) or Pakistani polytechnic graduates remaining unemployed five years after graduation (Asian Development Bank 1989) are quoted to show the dangers of an educational system which fails to take cognisance of labour market signalling.

30. Society's perception of the relative value of different forms of education does influence government policy (Dougherty 1987) and there are many examples of governments which continue to operate a *laissez faire* policy relating to tertiary education enrolment, mainly because voters demand subsidised opportunities to enter non-vocational programmes at colleges or universities (ILO 1991). Such countries have no system in place by which to gather or analyze labour market information because they see no need for such data (Asian Development Bank 1994). But social expectation is not the only cause of supply-driven educational systems. Countries following all or some of the paths of centrally planned economies have often regarded all levels of education as a "right" for all, or at least as many as the system could stand, irrespective of employment demand. "Equity" has become a justification for much expansion in educational buildings, equipment and facilities (Mazumdar 1989). World Bank labour market economists making their first visits to China were surprised to find the ultimate supply-side system, where local state controlled enterprises were told how many graduates from vocational schools, technical colleges or universities should be taken on as employees each year (Noah & Middleton 1988).

31. ILO identified three main reasons for the unquestioned support given to investments in human capital formation, particularly by governments in South Asia:

a) social benefits - including externality and spill-over effects;

b) enhanced employment opportunities and an apparent efficient utilisation of manpower; and

c) the belief that the private sector would shy away from financing certain aspects of education, specially in countries with low levels of social infrastructure (ARTEP 1991).

But research has shown that supply driven systems of education and training have led to social unrest when graduates fail to find employment which match their expectations (APSDEP 1992); that large numbers of over-trained graduates represent a very expensive and inefficient use of human capital; and that the private sector will respond (albeit sometimes slowly) if market forces are left to operate freely (Dougherty 1987). Some countries have blamed the acknowledged inadequacies of previous manpower planning techniques for their failure to include elements of labour market demand in their educational and training policies (Lucas 1991).

32. Unfortunately, as in so many aspects of educational policy, the pendulum is now swinging too far in the opposite direction. There is the current view, widely held in South-East Asia, that casts any form of central planning or control of educational investment as a left-over of socialist dogma, which should be dismantled at all costs. It is therefore very difficult if not impossible to convince some governments of the need for integrated human resource development (HRD) planning (Muqtada 1991).

33. Much evidence has now been amassed which supports the importance of external market forces and downplays the role of planning. In the Bombay labour market it has been found that it is the size of the firm which is the major determinant of wages, not the educational attainment of individual workers (Mazumdar 1989). Deliberate expansion of education and training investment to attain a shift in comparative advantage has been seen by some to be a misplaced concern. No causal relationship can be established, although some country examples appear to show associational relationships (Berhman 1990).

34. Even if market forces are recognised as an important element in developing human capital, there is still a need to identify the trends, prepare the indicators, and hoist the signals in a way that will be useful and valuable to both suppliers and end-users of manpower development. This means that there is a strong role for some form of labour market analysis which seeks to reconcile supply and demand (Godfrey 1991, ILO 1991). While there may be no conclusive evidence on whether manpower planning and economic growth are causally related, several studies show a strong associational relationship between the two. "The recent contentions on HRD planning are related more to what constitutes a balanced and meaningful HRD strategy, and what role the public sector

should play in the creation (supply) and utilisation (demand) of manpower" (Muqtada 1991).

35. In the search for a balanced perspective, the World Bank policy paper on vocational education and training (1991) has come in for strong criticism from some quarters for failing to reconcile the opposing requirements of social equity and efficient productivity (ARTEP 1991). Based on the idea that maximum effectiveness and efficiency can be obtained by providing training to those who are already in employment, the policy paper appears to hold little prospect for the many millions who have yet to find their way into the formal labour market. Labour market signalling must surely hold the key in efforts to redress the balance between supply and demand (Mazumdar 1989).

Training those concerned with labour market information processes

36. The shortcomings of the largely discredited manpower requirements approach were in part attributable to the absence of reliable data and the inability of those concerned either to gather or to analyze the necessary information (Godfrey 1991, ILO 1993). There is a danger that similar problems could beset the current labour market signalling techniques unless there is a substantial investment in preparing those tasked with assembling, storing, and retrieving relevant data, analyzing the contents to determine significance, and interpreting the results for appropriate policy formulation (Richter 1989, Godfrey 1991, Muqtada 1991, ILO 1993). "Manpower planners need to be firmly grounded in analytical techniques such as multiple regression analysis, survey research methods, and basic inferential statistics in order to develop and analyze those systems" (van Adams, Middleton and Ziderman 1992). It is necessary "to establish a viewpoint or a broad understanding of the main issues in employment and manpower information. Such an understanding of the issues is important for rational decision-making and information in the formulation, implementation and monitoring of policies" (ILO 1990).

37. In a world where the economic and social environment is constantly changing and evolving, analytical work is essential for the development of sound educational and employment policies (ARTEP 1991). However, the work must go beyond mere written descriptions of the past or the verbal depiction of previous trends or policies. It must also provide detailed qualitative and quantitative examinations of the constraints. It must analyze the relevance to current or future policies, assess alternative strategies, and suggest alternative policies deemed more appropriate to future needs (Psacharopoulos 1988). Some detailed proposals for analytical tools relevant to determining labour market indicators for use in the education sector were set forth by Mingat & Tan (1988). However, the need to expand the repertoire of techniques has been stressed (World Bank 1991), particularly the urgent requirement to develop techniques for rapid data gathering and assessment specifically designed for short term use in the field. Such procedures should be designed for rapid assimilation by relatively inexperienced enumerators or field staff in developing countries (Hurley & Richter 1991).

38. "As a contributor to the development of a national system of employment and manpower information which will have to serve a wide variety of purposes, you will have to be concerned with the content and uses of the products of such a system, and you will be concerned with the organisational and technical questions involved in order to improve your knowledge and skills" (preface to *Employment and Manpower Information in Developing Countries - A Training Guide*, ILO 1990). The need for training is well recognised: some of the tools have been assembled. Putting such training programmes into effect remains a major task.

39. The OECD research and development centres have been exploring the impact of economic and technological changes on the relationships between education and the economy. In particular, the effects of market liberalisation are recognised as creating fundamental changes in the supply (education/training) and demand (employment) sides of this relationship. The processes of economic and technological reform are changing demands. New needs are for more flexible working structures and for HRD policies which emphasise on-job and just-in-time training (Turnham 1993).

40. However, on the supply side changes are much more sluggish. The formal education and training institutions are inhibited in responding to changes in demand, largely but not entirely because of government education policies which constrain responsiveness at local levels, a problem which cannot readily be addressed (Bengtsson 1993, Turnham 1993). Turnham's view is that national "policy makers rarely take radical action unless forced to do so by unavoidable pressures emanating from inside or outside the system". The liberalisation of global markets is providing some of those pressures on the demand side. Inappropriate models of the supply-demand relationship make relevant interventions difficult. In consequence, Bengtsson points to the migration of traditional supply-side functions - training and scientific and technological research - away from educational organisations to the major employers. Conversely, the supply functions of public sector agencies become diffused when they are used as "employers of last resort" to absorb high levels of graduate employment (an important reason for INA's decline in Costa Rica - see paragraph 113). This then draws attention to the sclerotic nature of those organisations, and to forces as part of liberalisation policies to privatise (or abolish) their functions.

41. The conclusions are less than optimistic. Turnham points to the powerful forces resisting reform, and the unusual circumstances supporting reform in the successful East Asian economies. Bengtsson looks to a revival of interest in earlier models of lifetime learning, driven by employers' HRD policies and a more efficient training market in which both public and private providers compete. Implicit in both arguments is the need for the kinds of LMI which will inform decisions by individual workers and employers as well as government departments, will counter resistance to reforms by those who have most to gain from them, and will enable the efficient operation of national and local markets in training and education.

The current status of LMIS

42. Richards & Amjad (1994) bring together recent research and current thinking on labour market information systems. Editors of conference proceedings always have a hard task to achieve sequence and coherence; in this case the difficulty is reinforced by the apparent uncertainty of contributors as to the nature and application of manpower planning and analysis. Nonetheless it illuminates the need for some kind of decisive, tidy, user-friendly guide for actual and potential practitioners.

43. Martin Godfrey in his paper entitled *Planning for vocational education, training and employment: A minimalist approach*, makes the point that "what is needed, by students, their parents, teachers, trainers, jobseekers, employees and employers, is reliable and timely information about the state of the various labour markets for qualified people ... Meeting these information needs will be one of the main functions of planners in this field." Labour market analysis is not in fact an arcane preserve of central government. In his introductory paper on *Issues in Manpower Analysis* the-co-editor, Peter Richards, points to the provision of information as an important government role. "That forecasting is essential in setting up training courses and facilities does not necessarily imply that governments must undertake it. Governments are, however, uniquely placed to collect and analyze information ... The government can pass on to employers, and indeed make public in general, its assessment of where the economy is leading and which activities are likely to be favoured."

44. The point comes up again in the paper by Robert Lucas on *Manpower planning and economic development*. "... if the State genuinely possesses more complete information about future conditions (over which they exert some control), and is either unwilling or unable to disseminate this information to the public, then a case can be made for state intervention in guiding skill acquisition..." Nonetheless, he continues, "for the state to select fields of specific vocational education ... is highly risky".

45. Godfrey gives practical, if basic, advice on the collection of information. "This may involve ... baseline studies, but, initially at least, will be more a matter of talking informally to employers, trade unionists, researchers, journalists, educators, trainers and government officials ..." He stresses this later by saying that "[planners] have to get out of their offices and develop a 'feel' for the relevant training programmes and labour markets ..." In this respect George Psacharopoulos (World Bank) would probably disagree. In his paper *From Manpower Planning to Labour Market Analysis* he is sharply critical of key informants. "These are people who are supposed to know a particular sector inside out ... the fact remains that the information they provide is based on their opinion. It does not, and cannot, represent an exact description of hard facts about the future."

46. Godfrey also, in effect, provides a reasoned check-list of components of labour market information: unfilled vacancies, unemployment, expatriates, students going abroad, applications for training places in relation to the number of places, the impact of training on earnings over time. This is in fact the only systematic description in the book of what

LMI might comprise. A session on LMI in the 'Proceedings of the Workshop' did not, according to the brief report in this book, deal with this point.

47. In his second paper, on *Information needs for the transition to labour markets*, Godfrey discusses employment and unemployment information in Hungary, and describes a pilot survey carried out in China in 1987. Although under central planning in Hungary huge volumes of information were collected, it was not in a form which made multivariate analysis feasible. The Chinese survey combined establishment details with records of individual workers. Tiny in Chinese terms, it covered 109 enterprises and 36,000 workers; and it was learnt that fewer workers needed to be analyzed, but the number of enterprises needed to be much larger.

48. George Psacharopoulos points out that enterprise surveys cover only the small fraction of the population [in developing countries], which works in modern establishments. "The best place to obtain ... information is in the household." This is one of 17 "Do's and Don'ts" in his paper *From Manpower planning to labour market analysis. Inter alia* he also favours wage measuring, tracer studies, educational profiles (instead of occupational categories), and cost-benefit analysis. Manpower planners should consider questions of equity and poverty as well as production efficiency, and economic efficiency as well as technical efficiency. Training should be general rather than skill-specific. In this respect he cites a US Department of Labor report of 1991; this indicates "five competencies" in which secondary school leavers should be proficient: "ability to allocate resources; interpersonal skills; ability to assess information; ability to understand work systems; ability to deal with new technology". This matches Lucas's point "that the more successful vocational schools have actually emphasised the academic portion of the curriculum ..." But both contributors seem to duck the difficulty that education and training become continuously more specialised: even the choice of subjects for GCSE contains the germ of an occupational area. Be that as it may, Psacharopoulos follows by preferring firm-based training, cost recovery (rather than free education and training), private institutions; and finally short-term time horizons, a gradual and marginal approach, and the correction of labour market distortions.

49. When Godfrey comes to planning training in his first paper, he separates 'programmes with short lead times' (which he seems to equate with short programmes) from those with long lead times. "To some extent the planning of short programmes can be handed over to those who run them"; but an elaborate six-step process is indicated for long programmes. He then has to defend this against the possible objection that the process has "a family resemblance" to "the manpower requirement forecasting approach criticised earlier". It might also be objected that the division of programmes into those with short and long lead times (or short and long) is to say the least an oversimplification. This is a surprisingly weak part of an otherwise very helpful contribution, but he does at least face up to a key problem.

50. Two further papers discuss African experience of manpower planning. Eleazar C. Iwuji holds that it has been ineffective in Sub-Saharan Africa, not being trusted or understood; there is little communication between manpower planners and educational planners. (This

is a valuable point, to be remembered in the design of any future programme.) Christopher Colclough, writing on Botswana, shows that skill shortages have become more intense in the period 1965-90 and asks whether this implies failure of manpower planning. He bravely concludes that "the story is by no means one of unmitigated disaster", but it is certainly a cautionary one for us. Manpower planning makes a fool of itself when over-ambitious; but labour market information is still an indispensable basis for plans of many kinds.

Conclusions

51. The current aim of most governments is to make education and training more effective, an objective which requires new policies and new methodologies, as well as fresh investments in new facilities. But the first step must be to devise better policies calculated to introduce greater efficiencies than those which have been used before. To design improved methodologies, which can be more effective and relevant to the process of learning, will require new strategies backed by new analytical techniques.

52. A review of the priorities for upgrading labour market information has been recently undertaken by ILO in collaboration with the Danish agency DANIDA. Their joint report highlights the need for a better understanding of the process and use of labour market information, the need to establish key informant systems, the need to maintain a balance in which the social dimension is not lost or diminished, and the need to train trainers in the techniques of LMI generation, analysis and dissemination (ILO 1993).

53. The main conclusions of a four year programme of research and consultation on vocational and technical education and training by the World Bank's Human Resources Department point to the essential needs.

> "The analytical base for training policy and investment has traditionally included an assessment of skills demand, most often through a manpower requirements forecast, and a plan for expanding skills supply, generally through the establishment of public training institutions. ....This kind of analysis overlooks the more dynamic aspects of economic environment - among them the incentives for employers and workers to investing skills training. It also ignores the actual and potential contribution of employers and private training. Needed instead is a general framework that identifies the key questions and kinds of information needed to deal with both the economies of skills demand and the dynamics of training supply in the private and public sectors. .... To set up such a framework, policy makers should try to answer three crucial questions. What is the economic context of employment and skills demand? How extensive and effective are the various forms of training? Are current training policies and planning practices able to adjust training supply to a changing economic context? ....Labour market signals have become the key tool in planning" (World Bank 1994).

CHAPTER 3: THE CASE STUDIES: SELECTION CRITERIA AND METHODS EMPLOYED

54. The three case studies selected for first hand investigation within the research project were chosen on the basis that they would:

- cover a broad spectrum of experience, in terms of size, geographical distribution, economic and social development and forms of development interventions;
- be supported by local competent consultants;
- enable useful insights to be achievable during a short study visit; and
- provide findings of direct relevance to ODA.

55. South Asia and southern Africa were obvious areas for investigation, meeting in particular the last of these criteria. Countries which had already been the objects of substantial research were excluded. Project team contacts enabled competent and well respected local consultancy organisations to be identified in Bangladesh and Zimbabwe, two countries which met all the above criteria. In consequence, The Bangladesh Institute of Development Studies (BIDS) and (in Zimbabwe) Symacon (Pvt). Ltd. were approached to provide local support. Both agreed to do so.

56. The third case study presented rather more difficult selection problems. The Latin American countries have taken a distinctive approach to the central problems of linking employers and TVET providers, through national and regional employer-led training and development centres. One of the structures most lauded in the late 1980s in the development literature was in Costa Rica, a small country in the upper quartile of developing world economies, with a variety of current development interventions. This provided a Latin American case study to compare and contrast with the African and Asian studies, and consultant/interpreters were recruited to support the investigation.

57. The research team explored the notion of the labour market information system which might be developed where there is little or no existing infrastructure. One project team member (Geoffrey Hurley) had recently undertaken a consultancy for the Asian Development Bank in Cambodia, and this experience was used to provide the fourth case study, incorporating reflections on ways in which a LMI system might be constructed *ab initio*.

Methodology

58. The methodology adopted by the project team for the three field investigations took the form of a matrix (Figure One), which identifies on one axis a number of key user groups of labour market information:

- government departments and agencies
- employers and employer organisations
- labour organisations and associations
- training and educational institutions.

The other axis of the matrix comprises a series of questions or issues, summarised in Figure One and expanded in Appendix Two.

59. This framework was discussed with the local consultants and adapted to meet local conditions. A series of interviews in each case study country was arranged with the help of the local consultants in advance of the study, so that within a short period of time (each case study comprised about ten days) the available time could be effectively utilised. The visits all took place over the same period of time, during the last week of October and first week of November, 1994. Details of the field investigations are reported in Appendix Two.

60. Inevitably, despite careful plans, some hitches occurred. Political unrest in Bangladesh, including a series of strikes, meant that it was impossible to interview representatives of labour organisations within the timescale of the project visit. Where it proved impossible to undertake certain interviews during the period of the visit in Costa Rica and Zimbabwe, the local consultants completed the schedule and sent the information back to the UK. The Ministry of Higher Education in Zimbabwe refused to meet with the consultants, although the other government ministries approached all agreed to interviews. (Interviews at the Ministry were eventually completed by the local consultants in March 1995).

61. The project team was able, in December 1994 and January 1995, to study the four case studies, using the questions in Figure One's matrix as a framework. From these, the main problems and lessons identified from the research were developed, and used as a basis for Chapters 5,6 and 7.

	GOVERNMENT AGENCIES	EMPLOYERS AND EMPLOYER ASSOCIATIONS	LABOUR ORGANISATIONS	TRAINING INSTITUTIONS
Why is LMI collected?				
What LMI is collected?				
Who collects LMI?				
What techniques are used				
Who uses LMI?				
Who benefits from LMI?				
What are the costs of LMI?				
What are the training needs?				

Figure One: Labour market information investigation matrix

CHAPTER 4: THE FOUR CASE STUDIES

62. As indicated earlier, the three case studies undertaken specifically for this project were supported by local consultants, who advised on key contacts, facilitated interviews, provided background information which placed the interviews into perspective and, in Costa Rica and Zimbabwe, undertook further interviews after the research team member had returned home. Although a common research methodology (Figure One and Appendix One) was employed, this was adapted to meet the very different circumstances in the three countries studied. These differences are reflected in the structure and organisation of the following case studies. While they all consider broadly similar issues, they emphasise the distinctive features of the three national systems and are not, therefore, presented in a common format. The fourth case study has been prepared in order to demonstrate a specific issue - the needs of a national system with desperate needs for some basic labour market information in order to rebuild its infrastructure. Its format, therefore, differs from the other three studies. However, in the following section (Chapter 5), key themes and issues from across the case studies are drawn together and compared.

A. LABOUR MARKET ANALYSIS IN BANGLADESH

Economic Background

63. Bangladesh continues to struggle to generate the economic development necessary to sustain its population. It remains an agricultural economy, with a large labour surplus which is only partially alleviated by significant labour migration, mainly to the Middle East. Although the latest official labour force survey figures show the large majority of the population to be engaged in some form of wage earning economic activity, most authorities calculate the true level of unemployment to be around 25%.

64. The Bangladeshi Government is pursuing a World Bank inspired liberalisation policy, and successfully completed a three year IMF Enhanced Structural Adjustment Facility (ESAF) Programme in September 1993. Under these programmes, the public sector has retrenched, reducing its demand for labour. It has maintained effective macroeconomic policies under the "enhanced surveillance" procedures from the IMF up to September 1994, and under its own programme thereafter.

65. There are some encouraging signs of development in the private sector although of late private investment has fallen overall. Recent observers have pointed to signs of increasing demand for skills in the areas of electronics, communications, computing and related technologies (eg Hughes, 1994). Parts of the textile industry are also buoyant.

66. The combination of a long-existing labour surplus, and the continued reverberations of the pre-liberalisation policy of sheltering the public sector from labour market forces, has not encouraged investment in skills development. The large majority of labour is recruited

untrained, and acquires skills on the job. There is significant unemployment, especially in the short to medium term, amongst engineering graduates and diploma holders. However, at the same time, there are identifiable skill shortages which not infrequently result in under-utilisation of modern equipment, when such investment is made.

Labour Market Information

67. The lack of comprehensive, consistent, coherent, reliable and timely labour market information is widely recognised in the relevant government ministries and agencies, and has been well summarised in a number of reports on ILO/UNDP projects and ILO-sponsored seminars.

68. The following government ministries and agencies are those with primary responsibility for LMI collection:

Bangladesh Bureau of Statistics (BBS):- the central government body for population and other censuses in the country. It undertakes a regular Labour Force Survey, the most recent of which was undertaken during 1991-92 and the next of which will take place in 1995-96.

Ministry of Labour and Manpower:- the principal and highest level government body that deals with labour market monitoring. It is organised into three divisions, viz:

Bureau of Manpower Employment and Training (BMET):- continually engaged in collecting LMI and has primary responsibility for coordinating information on local and overseas labour markets. It operates via 21 District Manpower and Employment Offices (DEMOs). The principal activities of the DEMOs consist of :

- registration of job-seekers;
- collection of vacancy announcements;
- placement of unemployed;
- implementation of self-employment projects; and
- promotion of full employment in terms of both supply and demand.

In addition to the DEMOs, BMET oversees 12 regionally located Technical Training Centres (TTCs), although the formal courses at these institutes are under the control of the Bangladesh Technical Education Board (BTEB).

Inspectorate of Factories and Establishment:- monitors working conditions including labour welfare, occupational hazards and on-the-job accidents in factories and other working establishments.

Directorate of Labour:- oversees the labour courts and is responsible for settling labour and industrial disputes. It also collects and publishes statistical reports on the labour situation in Bangladesh.

Bangladesh Technical Education Board (BTEB) and the *Directorate of Technical Education (DTE)*:- coordinate vocational and technical education at the skills, trade and diploma levels. BTEB is responsible for testing and certification. DTE operates 64 Vocational Training Institutes (VTIs) throughout the country. Both BTEB and DTE collect data related to technical education, the former body having undertaken a number of specific surveys including a tracer study of polytechnic graduates.

National Productivity Organisation (NPO):- deals with issues related to industrial labour productivity. It falls under the jurisdiction of the Ministry of Industries. NPO collects basic information through sample surveys to analyze labour productivity.

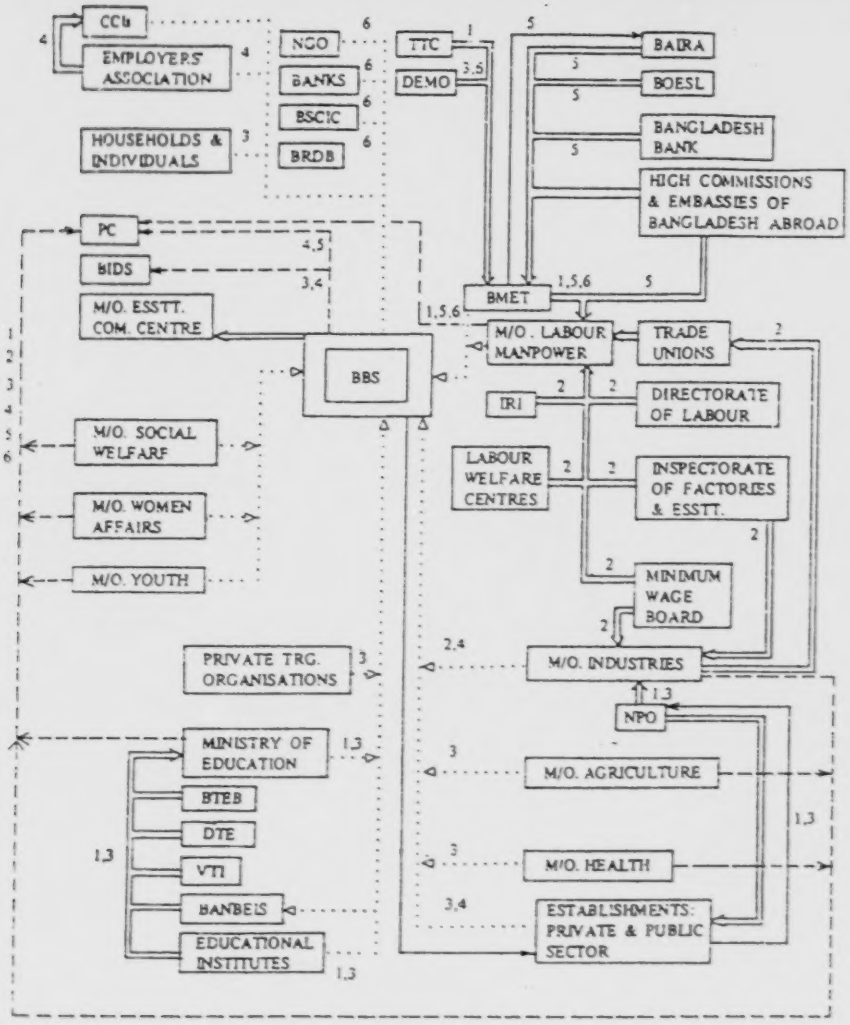
Planning Commission:- the highest level body responsible for developing growth strategies for Bangladesh. It is a major user of LMI and is in continuous contact with the LMI system.

69. Other government bodies with rather less prominent roles in the collection and dissemination of LMI include the *Ministry of Education*, the *Bangladesh Bureau of Educational Information and Statistics (BANBEIS)*, the *Ministry of Health* and the *Ministry of Agriculture*. In recent years, the Technical Teachers Training College (TTTC) in Dhaka, and a number of polytechnics, including Dhaka Polytechnic, and Mohila (female) Polytechnic, have undertaken surveys investigating the onward progression of past students. Non-Governmental Organisations (NGOs), such as UCEP (Under-Privileged Children's Educational Programs) are also engaged in activity of this kind.

70. The above organisations concentrate on collecting data relevant only to their remit. There seems to be little integration or consistency in overlapping data. Duplication of effort is admitted, and there appear to be some tensions over resource allocation for LMI collection and analysis, in particular between BMET and the Ministry of Planning.

71. A flow chart indicating categories of information and their purpose in the existing Bangladesh LMI system - at least in theory - is displayed in Figure 2.

FLOW CHART OF LABOUR MARKET INFORMATION



Abbreviations

BAIRA	=	Bangladesh Association of International Recruiting Agencies
BANBEIS	=	Bangladesh Bureau of Educational Information and Statistics
BBS	=	Bangladesh Bureau of Statistics
BIDS	=	Bangladesh Institute of Development Studies
BMET	=	Bureau of Manpower, Employment and Training
BOESL	=	Bangladesh Overseas Employment Service Limited
BRDB	=	Bangladesh Rural Development Board
BSCIC	=	Bangladesh Small and Cottage Industries Corporation
BTEB	=	Bangladesh Technical Education Board
CCI	=	Chamber of Commerce and Industry
DTE	=	Directorate of Technical Education
IRI	=	Industrial Relations Institute
NGO	=	Non-Government Organisations
NPO	=	National Productivity Organisation
PC	=	Planning Commission
TTC	=	Technical Training Centre
VTI	=	Vocational Training Institute

Figure 2: Categories of information and their purposes

BEST COPY AVAILABLE

Vocational and Technical Education

72. The educational structure of Bangladesh is shown schematically in Appendix Four. Formal education in vocational subjects at the undergraduate level starts after the Higher Secondary Certificate (HSC). Mid-level technical education commences after the Secondary School Certificate (SSC), and the polytechnic sub-system offers three-year courses in engineering technologies leading to the diploma of BTEB. This Board is the national accrediting body for the technical and vocational fields. There are 20 polytechnics of which one (Mohila) is exclusively for females. There are a number of agriculture and allied institutes, textile institutes and commercial institutes, and other specialised monotechnics offering diploma level courses in their respective fields.

73. The TTTC in Dhaka provides teacher training for these establishments. Four ODA Technical Education Advisers are located at the college on long-term contracts to carry out ODA's Technical Education Project. Over 250 polytechnic teachers have completed courses leading to diplomas in technical education. In his review of the project, Oxtoby (1994) refers to the TTTC as a first-class resource. He comments that there is evidence that polytechnic teachers are now beginning to change their teaching strategies in order to give added emphasis to the acquisition by students of knowledge, skills and attitudes more in keeping with the requirements of the world of work.

74. Vocational education in Bangladesh caters for occupations at craft level, mostly in the basic trades. The VTIs under the Ministry of Education, and the TTCs under the Ministry of Labour (BMET), form the main network of formal vocational education and training facilities for engineering trades. Enrolment capacity of the 64 VTIs and the 12 TTCs together is over 10,000. The formal courses of these institutes are also under the control of BTEB. The entry requirement is a minimum grade 8 pass. The courses are structured with nine months institute-based training followed by three months industrial attachment. Successful completion of the first year of training leads to certification at National Skills Standard (NSS) 3. Trainees can then gain admission to the second year work at the same trade, leading to NSS 2 certification. NSS 1 has been identified to be of master craftsman level. Beside training in the engineering trades described above, there are agricultural institutes, youth development centres, social welfare centres, etc., under different agencies of the government, offering a variety of training programmes and income-generating activities.

75. Vocational education is supported by the Vocational Teacher Training Institute (VTTI) at Bogra. It is widely acknowledged that the VTIs and TTCs have had considerable problems in fulfilling their objectives. They have low prestige and are not well known or well regarded by employers. A World Bank review of 1990 estimated their rate of return to be negative. A senior advisor and a consultant from the ILO area office in Dhaka are currently attached to BMET to work on a UNDP/ILO project, National Vocational Training System Reform. Amongst other things, this project involves efforts to improve the cost-effectiveness of the TTCs and VTIs, and to achieve better utilisation of capacity.

Employers and Employer Organisations

76. Generally speaking, employers in the public and private sector have only the most rudimentary labour market information systems of their own. Their view was that there was little incentive to invest in this area, since for most vacancies there was an over-supply of applicants. Most recruit staff via newspaper advertising and/or through holding records of suitable past applicants who had been surplus to previous recruitment requirements. Manpower planning appears generally broad-based, and geared more to the financial projections of forward business plans than to the forecasting of skill needs. Much of the skills development which takes place is achieved relatively informally by in-plant training. Training in the more high-technology areas, such as computing, relies heavily upon hardware and software suppliers.

77. Similarly, the individual Chambers of Commerce, the Federation of Bangladesh Chambers of Commerce and Industry, and the Bangladesh Foreign Investors Chamber of Commerce, act as forums and lobbies for their membership, publish some overall statistics, but do not engage in significant research into the labour market.

78. Opinions differed as to the effectiveness of the vocational and technical education and training system. In general, there appears to be reasonable satisfaction with the theoretical knowledge of polytechnic diplomates. The main criticisms were of their practical knowledge of the real work environment. This tends to confirm the findings of the last BTEB tracer study, which have since been addressed via the TTTC. Feedback on the quality of the VTIs and TTCs was significantly less positive, again confirming the evidence of previous reviews.

79. There seems, however, to be little or no attempt directly to recruit via the polytechnics, as the response of qualified people to any job advertisement is invariably healthy. Equally, there seems to be little contact with staff at institutional level, with the exception of tasks related to student work placements, although a number of employer representatives did comment that they were consulted by BTEB on curriculum updates, etc.

80. At the vocational level, the most positive response relating to education and training provision was with regard to UCEP. The Chair of the Bangladesh Foreign Investors Chamber of Commerce (also managing director of Singer Bangladesh Limited), extolled the virtues of UCEP. Singer is now recruiting female students directly from the UCEP training college in Dhaka, and is extremely satisfied with their quality, which was compared very favourably with that of the output of the VTIs and TTCs.

81. It was impossible to arrange interviews with any trade unions or worker organisations because of political unrest at the time of the field research. The Bangladesh consultants are of the opinion that such bodies do not collect and analyze LMI of any great sophistication. It was also claimed that, as the labour unions are concerned to protect members' jobs in the public sector, they are antipathetic to promoting the entry to the workforce, and advancement within it, of qualification holders.

The Applications of LMI

82. With the exception of BTEB, the labour market information gathered and analyzed by government departments and agencies appears to have little impact at institutional level. Even if institutional managements were made more acquainted with the LMI concerned, the high level of aggregation of the data in most reports would offer only the crudest guide to curriculum development and enrolment strategies. This applies particularly to the Labour Force Survey undertaken by the Bangladesh Bureau of Statistics. Its occupational categories are very broadly defined. With the exception of those related to agriculture, forestry and fisheries, which showed a decline of around 10%, all other categories revealed a growth between the 1989 survey and the 1990-91 survey, which is only now (March 1995) about to be published. Rapid growth by industry was identified in the mining and quarrying, manufacturing, construction, trade, hotels, finance and business sectors. Although female participation in the labour force is steadily improving, backed by government policy, female workers are disproportionately concentrated in agriculture, fisheries and forestry, the one sector in significant decline. 88% of the female labour force is employed in this sector, compared with 56% of the male labour force.

83. Although the reliability of the labour force survey is said to be good, the methodology for calculating unemployment produces an overall rate of 1.9%, which all agree is a gross understatement of the true figure. Using the same methodology, the last survey revealed an unemployment rate amongst SSC/HSC/Diploma holders of 3.4%, and amongst graduates and post-graduates of 3%.

84. The BMET statistics, arising from their regular establishment surveys, are potentially more useful to providers of education and training. A copy of the tabulation plan for these surveys, which is used to aggregate data via districts, and then for the whole country, is attached as Appendix Three. The data used to compile this tabulation is collected by means of interviewer-administered questionnaires, under the supervision of the 21 District Manpower and Employment Offices (DEMOs). Whilst these surveys have an impact on TVET via BMET's responsibility to for the TTCs, there seems to be little or no familiarity with their contents at institutional level.

85. There are other question marks over the potential usefulness of this data. It takes some time after the completion of each survey for the data to be processed and the report to become available. The visit to one of the DEMOs, at Sylhet, threw considerable doubts on the comprehensiveness and reliability of the data. According to the information provided there, surveys had in fact been conducted at less frequent intervals than indicated by BMET. The number of establishments included (said to be all those employing 10 or more staff, including part-timers) seemed to vary significantly between surveys. The most recent survey in the Sylhet district had included 239 such establishments, which is likely to be an understatement of the actual number. Some establishments were said to refuse to supply some, or all, of the information requested, because they were suspicious it would be used for taxation purposes. The staff at the Sylhet DEMO appeared to have little familiarity with the data which they had collected, or its potential applications. Neither did they seem

to have any significant contact with the staff at the neighbouring Sylhet Vocational Training Institute.

86. The main impact of LMI on TVET is via the work of the BTEB. A number of important surveys and reviews have been sponsored by BTEB in recent years, including a tracer study of polytechnic graduates in 1990, a study of exportability of skilled manpower from Bangladesh in 1993, and a study of the job market for VTI graduates in 1994. BTEB also undertakes scanning of newspaper advertisements. ODA implemented a review of the diploma-in-engineering curriculum in 1991 and a study of the socio-cultural aspect of the diploma-in-engineering curriculum in 1992 The reports arising from these surveys have been influential in curriculum development and recruitment planning and have influenced the curriculum of the TTTC. As a result of the findings of these reports, the intake to power technology courses has been reduced, allowing selected institutions to replace this specialism by automobile engineering and/or refrigeration and air-conditioning. The availability of electronics is being extended across all the polytechnics in order to meet anticipated skill demands, and computing technology is being introduced at a number of institutions. The diploma engineering curriculum has been revised to include new components in computing, entrepreneurship, and environmental studies. The amount of time devoted to social skills, English, and related subjects has also been increased in response to comments from employers.

87. Within the polytechnic system, the LMI-related work of BTEB, supported by the TTTC, has had some impact on management attitudes. The TTTC has undertaken a small amount of management training within its programmes, stressing, amongst other things, the importance of responsiveness to industry needs. With the encouragement of BTEB, student demand is being taken into account rather more than hitherto, as an indicator for recruitment policy. Students are considered to be relatively sensitive to short-term movements in the job market. Their relative demand for different programme areas is, therefore, likely to be a more quickly responsive indicator than the quantitative data which emerges from the official reports, which take some time to publish and impact upon the system. Labour market surveys have also been undertaken at institutional level within the polytechnic system, notably by Mohila (female) Polytechnic in undertaking a tracer study of its graduates earlier this year.

88. Managements and staff at the VTI and at the TTC exhibited little or no consciousness of labour market information from whatever source, and its implications for their own institutions. Institutional autonomy appeared even less than in the polytechnics. In both institutions, recruitment in a number of programme areas was substantially below capacity, whilst applicants were being turned away in others. There seemed, however, to be little sense of urgency that the under-utilisation of capacity which resulted should be addressed unless, and until, they were directed to do so by the DTE or BMET.

89. In both polytechnics and vocational institutions, lecturing staff seemed to have little direct contact with employers. The best example of institutional responsiveness to employment needs encountered during the research was at UCEP, a NGO. UCEP operates at institutional level, and there is direct transmission of the significance of LMI to teaching

staff. Because it is dependent on donor-aid, and donor agencies demand regular accountability, staff are encouraged to seek regular feedback from employers via advisory committees, employer days, job market surveys, and tracer studies. The demands of the labour market are seen as to drive curriculum development, in order to ensure the continuation of the currently excellent rate of placement of students into employment which, at over 90% overall, is significantly higher than that for diploma engineers.

Improving the Responsiveness of TVET

90. Although staff concerned with LMI at ministerial and government agency level are conversant with research methodology, the comprehensiveness, reliability and timeliness of LMI could all be improved via relatively modest investment in supporting hardware, software and training. Staff concerned with the gathering of LMI are generally graduates, even in the DEMOs, but the need for better training in basic techniques of sample selection and data gathering is generally conceded. At present, most of the data gathered by questionnaires is analyzed manually, which is time-consuming and limiting. Investment in standard questionnaire analysis software, and computers on which it would run, could potentially achieve a substantial improvement in the speed of data analysis and the production of subsequent reports. It would also enable more sophisticated data analysis to be undertaken. Such investment would, of course, need to be underpinned by training in questionnaire design and analysis.

91. However, as things stand, it is unlikely that improvements in the LMI systems of government ministries and agencies would immediately enhance the responsiveness of public sector TVET. As has been noted, changes in curriculum and recruitment policies tend presently to take place gradually, and top-down. There remains an accompanying need to develop an ethos at institutional level of involvement in, and responsiveness to, the employment market. This calls for leadership by institutional senior managements, supported by staff development in basic techniques of marketing and industrial liaison. The energetic management of UCEP has demonstrated that it is quite possible to achieve effective industrial links at institutional level, and to achieve short and medium term responsiveness. More emphasis should be placed on low-cost systems of market intelligence, such as newspaper scanning. The function of industrial liaison needs to be defined far more broadly than its present confinement to student placement. Employers need to be more actively involved in curriculum advisory committees, and teaching staff need to gain regular experience of the working conditions in the industries for which they are supposedly preparing their students. Some steps in this direction are already taking place through the TTTC.

92. One indicator of the current level of contact between the providers of TVET and industry is the paucity of tailor-made short course provision provided under contract by staff from public sector institutions. Consultancy services and in-plant training are even rarer. The development of successful programmes in these areas demands close links with industry in order that staff win the confidence of employers, and develop the practical knowledge and expertise which is necessary to deliver credible programmes. Better quality LMI is only

one part of the answer. There also needs to be greater autonomy and flexibility at institutional level to respond to the type of market intelligence which can only be gained by close and regular contact with industry. Institutions need to make vigorous efforts to enter the same networks in which industry is involved, including the chambers of commerce.

93. UK experience suggests that changes of the type suggested above can only take place over time. In addition to staff training, they call for changes in institutional structures and individual job specifications. The process is likely to be encouraged if there are clear financial incentives for staff at all levels to make the necessary adjustments. Consideration might usefully be given to making some element of institutional funding dependent on recruitment performance against specified targets by programme area, plus output related features in the form of funding dependent on retention, qualification and placement rates. It is likely that institutional commitment to the introduction of these features within the funding arrangements would be more likely to be secured in the short term if they formed an added bonus, rather than a proportion of the current funding allocation.

B. LABOUR MARKET ANALYSIS IN COSTA RICA

The economy

94. Costa Rica is a small Central American state of less than 4 million people, extending from Atlantic to Pacific coasts. It is distinguished from its neighbours by its political stability and consequent relative prosperity. It disbanded its armed forces after a short but bloody civil war nearly fifty years ago, and since then has operated a model democracy with power shifting peacefully from one to the other major political party usually every four years. Its economy has traditionally been based on "the desserts" - bananas, coffee, cocoa and flowers. Recently, however, it has become an increasingly important tourist destination, particularly for North Americans, and has focused on the expensive end of that market, promoting 'eco-tourism' and protecting while exploiting its natural advantages - beaches, rain-forests and abundant wildlife.

95. The incoming government after the 1994 elections is committed to a policy of 'sustainable development, but is also responding to the worldwide pressure for economic liberalisation. On 1 January 1995 Costa Rica entered into a free trade agreement with Mexico, which will take it into the North American Free Trade Area (NAFTA). This is likely, in the medium term, to have a dramatic impact upon the Costa Rican economy and its labour market. The government signed up to a major World Bank funded structural adjustment programme in 1994, with the familiar features of privatising state-run enterprises - or closing them down if palpably inefficient.

96. Costa Rica's political stability has been shored up through economic and political institutions which bring together government, employers and labour organisations. Employers are organised through a complex arrangement of Chambers of Commerce ("*camaras*"), with ready access to government and representation on the key bodies which regulate the economy. The role and structure of the *camaras* is examined in more detail below.

97. The third leg of the traditional framework has, however, recently been weakened. The labour unions have been undermined by the establishment of enterprise-based *Solideristas*, government-regulated and employer-dominated works councils. It has required intervention by the United States and the international labour organisations to prevent the current fairly right-wing Government further undermining the effectiveness of the labour organisations, and in consequence only limited evidence was found of their contributions to the understanding of the labour market and the debate as to training provision for that market.

The labour market

98. The labour market in Costa Rica is at a particularly interesting stage at the moment. Traditionally it has been dominated by agricultural production demanding low skill levels and little training. The processing of agricultural products plus metal-related industries

created demands for formal training, along with the secretarial skills demanded in both private and public sectors. More recently, tourism has become a major industry and the government's major priority with a new policy of sustainable development and eco-tourism is affecting the labour market.

99. Information about the operation of the labour market is limited, although there is a good deal of data collected related to specific industries and occupational sectors. Most of this has been collected by international organisations, using local data collection and analysis expertise. There have been a number of international studies in recent years, including a major CINTERFOR/ILO study of the whole of Latin America, and a recent Inter-American Bank study of the six Central American Republics, from which the sections relevant to Costa Rica have been extracted as a basis for labour market planning. The European Union has also recently commissioned a survey of the tourist industry, including its impact on the labour market, whose recommendations in the form of a five-year plan are now being considered by the Costa Rican Government.

100. The Ministry of Planning has some responsibilities for data collection but undertakes no labour market research, and both INA (see below) and the Directorate of Employment within the Ministry of Labour undertake employer and household surveys. In practice the system is structured so that industry and training providers can make use of 'key informants' through a complex and formal structure of committees with regulatory and planning functions organised through INA with the *camaras*.

INA

101. As in other Latin American countries, the traditional response to labour market needs has been a tripartite one, involving the *camaras*, the labour unions and the government. Thirty years ago, an early outcome of this tripartite framework was the establishment of INA, the *Instituto Nacional de Aprendizajes*. While this is a non-governmental organisation, in practice it is closely controlled by the Government. Its two senior positions, the Executive President and the Managing Director are both political appointments. As the Government usually switches from one party to another every four years, these post-holders are also replaced with the change of government. This happened in 1994 when the new Figueres Government took over from what is now the main opposition party.

102. INA has both a social and economic mission. Its purpose is to ensure that the Costa Rican economy is supplied with the necessary skilled labour. It also has responsibility for tackling the problems of unemployment and - more typically of a developing country - under-employment. Both of these purposes now need to be underlain by the new policy of sustainable development.

103. INA is managed by a Board, on which the Ministers of Education and Labour sit, among with representatives of the *camaras* and organised labour. The training system is organised on a hierarchy of committees. At the highest level there is a "Cupola Committee" with representatives of the camaras, government and labour organisations, chaired by INA's

Executive President. Below that there are three sectoral committees for the major industrial sectors - commerce, industry and agriculture, and below those in turn sub-sectoral committees representing specific sub-sectors such as coffee-growers, tourism, metal-working and construction.

104. INA's relationship to the structure of *camaras* has been confused by the previous Government's reorganisation of INA to provide training for a large number (43) of separate occupational groups drawn from the International Classification of Occupational Groups. This led to the virtual collapse of the previous industrial sector-based tripartite framework. With the new Government, INA has now reverted to the old structure of committees based on a smaller number of industrial sectors, on which the *camara* for that sector is represented.

105. INA provides mainly certificated craft-level training. There is also a variety of private, uncertificated training and INA has recently been asked to co-ordinate and arrange for the certification of this provision. The delivery of INA training is through a number of training centres, some of which are based on the headquarters site in the capital, San José, others scattered throughout the regions. The training centres are specialist centres, dealing with the main industrial groups such as electronics, construction, mechanical engineering, etc. There are a variety of training formats. The traditional delivery is through a 1½ to 2½ year full-time programme for 16-18 year olds. The curriculum is quite broad, in line with INA's social objectives, so includes general education and recreational activities as well as skills training. The general view is that,while standards of literacy are quite high, there are problems of numeracy and the general education includes remedial mathematics.

106. A growing part of INA's work is part-time provision for adults in work, through night schools - day release is an unknown concept in Costa Rica - for nine hours per week, usually three evenings per week.

107. A third kind of provision focuses on the needs of the unemployed and underemployed. This is the provision of 'drop-in centres', public workshops open every day where trainees bring their own raw materials but can learn basic crafts such as carpentry, food-processing, brick-laying, etc. Sixteen such centres have been established across the country with four more to open in 1995. Training in these centres is uncertificated, but trainees can go on to certificated courses from here. Basic training for the certificated courses is provided through the INA policy of 'mobile action' - taking equipment and trainees to community centres and shops, wherever there is a need. Higher level training is provided normally at the INA headquarters, which also offers residential facilities and scholarships to support poor trainees who could not otherwise afford to live in the capital.

108. This might imply that the system of provision is needs-driven. This is not quite accurate. The needs which drive the present programme of training were identified a decade ago. Where they have been augmented, this has been offer-driven - INA provides biotechnology training only because Taiwan donated a biotechnology laboratory, not because of any demand from private industry.

109. The system is financed through a levy on all enterprises with more than five workers of 2½% of the wage bill, except the agricultural sector which pays only 0.5% of its wage bill. In return for that, all INA training is free, including specific training organised for individual enterprises. INA staff are surprised that so little opportunity is taken of this facility. At present the government is pressing INA to underspend its levy, so that the balance can be used to reduce the current budget deficit.

110. The training curriculum is designed centrally within INA, and there is only limited work-based experience. This is used where INA does not have the requisite equipment, and enterprises are usually fairly obliging in making their equipment available to INA trainees, even though these trainees are not their own employees. The system was described as working on a series of inter-linked obligations.

111. High priority is now given to ways in which INA can meet the needs of the informal sector. Particular priority is given to the provision of training for women to encourage their involvement in the work force and training for street children - even where that training is for youngsters below the compulsory school-leaving age. There are also special programmes for the handicapped, provided by INA in co-operation with various Ministries and NGOs.

112. A bureaucratic system such as this can only meet the rapidly changing needs of an emerging economy if there is good and regular information about the changing labour market. The basic messages from both within and outside INA were that the labour market information was insufficient to keep pace with the changing needs of the economy. The problem was described in essence as political. Because INA is so close to the government, it has no imperative to respond to the demands of industry, whether direct from individual industries or through the *camaras*. Research is carried out by INA in the various industrial sectors, but this only takes place every two or three years and the processes of converting the research findings into curriculum changes are slow. INA is not obliged to market its services to industry, but examples were found of particular centres doing just this, bypassing the official routes and using INA staff as industrial liaison officers to go directly to industry, ascertaining their needs and then using whatever flexibility is permitted to modify the curriculum in order to meet those needs.

113. In the view of ILO and others, INA was a "wonderful organisation" a few years ago -in the 1980s - but has recently ossified. It has become a victim of its own successes, in that it became a desirable place to work and so acquired lots of extra administrators, as governments placed their supporters in INA jobs. In consequence, it now has 400 trainers and 1400 administrators! Bureaucratic systems abound, and the training centres expend much energy in seeking ways to circumvent these systems. In the view of ILO, recent developments with ENCAP in Chile, INCE in Venezuela and SENA in Colombia place these organisations as the best examples of current good practice in Latin America, largely because of their ability to continue to evolve, building close links with and responses to the private sector in countries where privatisation polices have been established. The ILO has recently made confidential proposals concerning the future development of INA, and there are some indications that these are being taken on board by the new government.

114. The change of government in 1994 has led to a review of most aspects of INA's work. The main manifestation of the problem is that INA graduates are not as successful as they used to be in finding jobs. The new policies of sustainable development and membership of the North American Free Trade Area require what was described as "more dynamic types of employee". Workers need to be conscious of the social and environmental consequences of their labour - for example the use of CFC's in the refrigeration industry and the very large waste which used to exist in the tropical hardwood industry. The first steps in this change are the retraining of INA's trainers. Priority areas have been established in association with industry and government. The focus is on training a flexible work force, whose increased efficiency is needed to keep Costa Rica competitive in the new markets into which the country is entering. The national labour organisations are co-operating with this policy - the example was cited of an agreement with the national oil refinery trades union to co-operate with government-imposed changes.

The Ministry of Education

115. The Education Minister is a member of INA's Board of Directors, and her Ministry has separate responsibility for technical and vocational education through some 30 technical high schools and one Technological Institute, with university status. Those interviewed drew a clear distinction between the formal education provided through the technical high schools and the non-formal education and training offered by INA. In practice, the distinctions seem more of social status than curricular distinctiveness. There is an expectation that those leaving technical high schools will go on to university or to higher level jobs than those leave INA training centres. This is probably the case in some areas, such as graphic design but did not seem to apply to motor-vehicle engineering, electronics and secretarial courses at one of the country's largest and most respected technical high schools (COVAO), where the curriculum content and the career destinations of its students were very similar to those seen in similar subject areas at INA training centres.

116. The curriculum for the technical high schools is designed centrally within the Ministry, and schools are closely supervised to ensure that they follow that curriculum. There are some limited opportunities for teachers to tailor the curriculum to meet local needs, but the constraints on this are a source of frustration to teachers and managers in the schools. The exception to this is where external aid has been used to review and upgrade the curriculum. German specialists have been working for six years at COVAO to upgrade graphics design training, and have now been brought in to do the same for metal-working and electronics. Dutch specialists are developing new programmes for women at Limon on the Caribbean coast. The foreign specialists have made contacts with private industry in order to tailor the curriculum to industry's needs, but the aid programmes have not involved the provision of equipment. At COVAO, INA has provided funds for new graphics and engineering equipment,demonstrating a recent policy of closer cooperation between INA and the technical high schools - aided no doubt by the civil servant responsible for technical and vocational education having been seconded to the Ministry from INA.

117. The new Minister of Education has embarked on a major programme of education renewal for the technical and vocational sectors. A national conference, involving industry, commerce, the Camaras, INA and the education sectors was called in December 1994 to reflect on the country's needs in the light of new policies of sustainable development and free trade. It is expected that this will lead to major curriculum revision, but not to structural changes in the organisation and management of that provision. However, to improve the quality of middle management across public and private sectors, the organisation responsible for training secondary teachers has just been asked to investigate ways in which it could upgrade the management skills of commercial and industrial as well as public sector middle managers, by undertaking a generic management skills analysis.

118. One significant feature of the reform programme has been the recent designation (in the new national Science and Technology Plan) of CEFOF - the Ministry's centre for the training of education managers, established with Japanese aid a couple of years ago - as the national centre for middle management training. It is intended that CEFOF will complement INA, training supervisors while INA trains skilled workers.

Other ministries

119. The Ministry of Labour carries out regular household surveys, augmented by occasional surveys of specific industries with perceived or potential problems. It admits that it collects a large amount of data but lacks the capacity to synthesise it into coherent outcomes. It finds it difficult, therefore, to draw upon this data in support of two of its prime planning functions:

- the establishment of "zonas francas" - free trade areas to attract foreign investment and stimulate industrial development; and

- the operation of a wages policy whereby the government fixes the annual minimum wage increase across the board, irrespective of the state of supply and demand in the labour market.

120. The Ministry of Planning has no involvement in labour market research, and does not see that as part of its functions. However, the Ministry of Science and Technology is currently a good deal more interventionist. Its new national Science and Technology Plan emphasises that Costa Rica's competitive advantage in world markets is dependent on the infrastructure for research, training and technology transfer, looking to it becoming a "world-class regional knowledge capital" on the basis of its already well-established information and telecommunications infrastructure. The Plan goes on to propose a decentralised system for enhancing competitiveness, including the establishment of "centres for industrial modernisation and the promotion of competitiveness" where research and development supports new high technology small and medium sized enterprises. INA and the technical high schools are urged "to refocus their strategy and

organisation to provide new support to the global competitiveness that the productive sector needs".

The *camaras*

121. The *camaras* are a distinctive Costa Rican phenomenon. Each industrial sector has its own *camara*, and there are cross-sector *camaras* for exporters, manufacturing industries, etc. On top of these national *camaras*, there are also regional ones which operate rather more like the British Chambers of Commerce. Medium size enterprises are, therefore, likely to be members of several *camaras*. One interviewee, herself Executive Director of one of the largest *camaras*, described the country as suffering from the "*camara* syndrome" - an excuse for talking a great deal and doing very little.

122. The *camaras* are small organisations, rarely with more than a dozen employees. The major function of most of the *camaras* appeared to be public relations for the employers represented, while acting as pressure groups particularly with the government on issues of concern to the employers, such as tariff protection. While they represent the industrial sectors in a variety of forums with Government, INA, etc., little evidence was found that such representation was effective in arriving either at a clearer understanding of the operation of the labour market or of the organisation of training provision for that market. However, they are important vehicles for disseminating the findings of international projects: the Tourism Chamber (CANATUR) is currently disseminating through publications and seminars the findings of a plan for the development of tourism arising out of a recent European Community project.

123. The largest of the *camaras*, the *Camara des Industrias*, with 30 employees, has a wider range of functions than the others interviewed. Its income comes from fees, the sale of services including training, and involvement with international projects, for which the Camara occasionally undertakes research work (including labour market surveys). It provides training programmes - mainly short (one day) courses - and occasionally conducts its own labour market research within specific industrial sectors. Recent surveys have been undertaken within the orange juice, clothing, coffee processing, cardboard box and extruded metals industries. Some of the research has been commissioned from the local universities and from Peat Marwick. These have identified deficiencies in both general education and technical training. The findings are contributing to the current seminars and conferences on Costa Rica's competitiveness and economic development needs.

124. The Camara's main services to its members include those indicated above, and particularly trying to influence legislation which will affect members' interests. The main task was described as "building strategic alliances", including improved links with the labour organisations. The Camara is currently in the process of developing a new range of services to its members, including the sale of information. Like the other camaras, the *Camara des Industrias* has little contact with individual TVET institutions, although it

works closely with some universities and with both CEFOF and INA (but finds INA difficult to work with because it is "too close to government").

The employers

125. Costa Rica's major employer, apart from the government service, is *ICE* - the national supplier of electric power and telephone services. It absorbs a large proportion of INA and technical college graduates (60% of INA electronics trainees), and has a large internal training unit, together with a research unit specialising in labour market research and a programme development unit. They operate provider-client relationships, the research unit 'selling' its findings to the programme developers, who in turn 'sell' their curricula to the training unit as part of ICE's internal market.

126. The company operates a job classification scheme, matched against a hierarchy of qualifications, from technical high school diploma, through INA certificates to college and university qualifications. These are augmented by internal certificates, as about one-third of all training is provided internally. External training is commissioned in response to the labour market research (the research teams also conduct evaluations of external programmes). INA in particular was criticised for being slow to respond to new needs - but ICE did not perceive that its labour market findings should be provided to INA, as they were commercially sensitive.

127. Other employers in Costa Rica are very largely "microbusinesses", with five or fewer employees. Many of these are too small and too poor to join a *camara*, and operate in the informal sector. Their needs were summarised as "information, legal advice, management skills, commercial opportunities and training". They cannot afford to buy these, although where they are members of a camara they are eligible for some government-funded advisory services. There is much current discussion about ways in which these tiny enterprises might contribute more to the economy if linked to provide some vertical integration, as, for example between coffee growers, processors and exporters. Some experiments to support such links are currently being supported by NGOs funded by international agencies. These are providing training - a Dutch project supporting female workers on the Atlantic coast was cited as a particularly successful example of this support.

Labour market information: some conclusions

128. Costa Rica has developed a complex tripartite system for labour market analysis, which was much lauded in the 1980s. The research study discovered that this system has ossified and been politicised. The labour market research undertaken by and for the government departments, *camaras* and INA still takes place but occurs too infrequently and is uncoordinated. The central determined TVET curriculum was reformed in the late 1980s using labour market information, but it does not contain mechanisms for self-renewal and is insufficiently responsive to the findings of more recent LMI. The processes of data

collection are well established, but there is little coordination between the various data sources and in consequence little meaningful analysis. Furthermore, while it was feasible a decade ago, in an economy largely protected from major global trends, to predict short term labour market needs with some accuracy, the more turbulent current economic environment makes this much more difficult.

129. In consequence, the most effective methods of labour market analysis are the informal local systems, established to bypass the formal bureaucratic systems. The use by some of the major training providers - INA and the larger technical colleges - of their own staff as industrial liaison/marketing officers is effective, both in building bridges with employers and in bringing back messages about new training needs in response to labour market and technology shifts. These links have additional benefits in enhancing the credibility of the training organisations with employers, who are also more inclined to encourage their workers to undertake training (but only in the evenings) and to make their most modern equipment available for training purposes. However, these are used by only a small number of enterprising organisations, particularly where they are shielded through external aid projects from bureaucratic interference.

Data collection

130. Formal research techniques, other than standard questionnaires to employers, are unknown (or at least unused) in Costa Rica - the Executive Director of INA was very anxious to obtain details of such techniques so that they could be used within his organisation. Standard market survey techniques are used by the private consultancy firms and INA researchers when collecting data from employers. Household surveys are used by the Ministry of Labour, but their findings are not correlated with other evidence about the labour market. Special surveys, funded by government departments, international agencies, *camaras* and INA, occasionally focus on specific industries, using both postal questionnaires and telephone surveys - Costa Rica has one of the best telephone systems in Latin America. However, users are sceptical as to their accuracy and the findings are retained by the collecting organisation. The view was expressed that the country is awash with low quality data, but lacks mechanisms to draw it together, improve its quality and - most of all - take action on the basis of the findings.

131. In contrast, market intelligence is collected within training institutions, and is used in some to reform the training curriculum, advise trainees on career opportunities and build close links with employers. This information concerns emergent and new technologies, equipment and work practices being introduced by employers, new training needs identified by employers, the tasks undertaken by trainees once moving on to full time employment, and the opinions expressed by employers about the quality of their new recruits and the relevance of their recent training. All training institutions acquire some of this intelligence. The more effective ones have systems whereby they can check its accuracy, and then make use of it - even where that involves some deviation from bureaucratic requirements. It is easier to achieve this where consultants recruited as part of

an international aid project encourage experimentation and focus on curriculum reform, based on labour market research.

Analysing and utilising data

132. The only data analysis techniques identified through the study visit were the traditional statistical techniques, collating and cross-referencing large amounts of data mainly manually. Although Costa Rica has a small but thriving computer industry, the research investigation found no evidence that it was being recruited to process LMI: it was described as too involved in processing North American data on contract to have time for internal data analysis.

133. The main uses of labour market data are by the *camaras* and individual companies. *ICE* is distinctive, because of its size and prominence in the Costa Rican economy, in its internal use of LMI and its well established LMIS. The *camaras* use the data as evidence in campaigns in support of members' interests, but they are too small to mount their own training programmes and not closely enough linked with TVET institutions to try to influence their training curricula. The TVET institutions use the data only in the circumstances described above, while the central curriculum development agencies use LMI infrequently at times such as the present moment when the training curriculum and its contribution to economic growth is being reviewed.

Training needs

134. No formal training is provided for the researchers, analysts and users of labour market information. The standard survey techniques used in both the public and private sectors require reasonably familiar statistical, sampling and data analysis skills. The main plea was for computer hardware and software to speed up these processes, with little consideration of alternatives to the time-consuming manual data analysis being undertaken. INA's senior managers are anxious to learn of new techniques for the collection and analysis of LMI, and INA and CEFOF may well be amenable to supporting experiments which introduce different approaches to labour market research.

135. There is less awareness of the need to train end-users. At COVAO this is being undertaken informally, as local trainers work alongside German consultants in collecting LMI from employers through visits and key informants. While effective in both developing new skills and changing attitudes, this is a slow vehicle for reform: the German consultants at COVAO have already invested five person-years and have transformed one department in one TVET institution. There are clear needs for training targeted at both specialists and end-users - as soon as there is an agreed framework in which the benefits of improved LMI can be used to improve TVET provision across the TVET sectors.

C. LABOUR MARKET ANALYSIS IN ZIMBABWE

Introduction

136. Zimbabwe is a landlocked country heavily dependent on its trade and transport links with South Africa. Its economy is, therefore, particularly volatile at present, in response to the major changes taking place in its much larger southern neighbour. This volatility is enhanced by the Economic Structural Adjustment Programme (ESAP) described below. A population census was held in mid-1992, but the results were still being processed by Zimbabwe's Central Statistical Office (CSO) in December 1994. However, the population is estimated to number approximately 10 million with a growth rate of just under 3%. The potential labour force is estimated to comprise just under 5 million people. Most Zimbabweans are of Shona origin and they outnumber the Nbebele, the other significant group by approximately 4:1.

137. The white population of European origin has steadily decreased in numbers since independence in 1979 from around 280,000 to an estimated 80,000 in 1994, although emigration in recent years has declined. This has resulted in something of a brain-drain and there is a shortage of suitably qualified and experienced middle and senior managers across most sectors of the economy. Another salient feature of the country's population trends is that the urban population is expanding rapidly, as increasing numbers of people migrate from the rural areas to the cities and towns. With the high unemployment rates, this is posing growing socio-economic problems.

138. English is spoken in the main towns and is used throughout the educational system from secondary schooling onwards as the language of instruction. There has been substantial investment in education since independence which has had a major impact on literacy rates among the black population, although there is concern that the considerable investment in technical and vocational training has not achieved all that might have been expected.

The Economy

139. Although the political situation is relatively stable, the Zimbabwean economy is currently experiencing considerable checks to its development. Unemployment rates remain alarmingly high with an estimated 30-40% of the potential labour force unemployed, although no reliable figures are available, as no information is systematically collected regarding employment opportunities or patterns within what is acknowledged to be a significant informal sector. It appears, however, that unemployment is particularly concentrated among the 15-24 age group with an increasingly large proportion of people educated to secondary and tertiary level unable to find employment. With an estimated 150,000 to 200,000 school and tertiary education leavers per year currently entering the labour market, and these numbers expected to be increasing year on year, this gives cause for concern. Annual job openings in the formal sector were estimated at around 70,000 per annum in 1992. With massive redundancies and the downturn in the economy over the

past two years, the number of vacancies is likely to have dropped substantially below that figure, and some interviewees suggested that the figure is probably only around 30,000 vacancies per annum in the formal sector at present.

140. The economy is reliant on its agricultural and mining sectors which jointly account for just over 20% of GDP, although a prolonged drought, coupled with deflated commodity prices on international markets over recent years, have taken a heavy toll on the economy while the resulting balance of payments crisis has exerted enormous pressures on the exchange rate. Some 70% of the country's population relies on the agricultural sector for its livelihood, although there has been a marked decline in formal employment in the sector over recent years.

141. Manufacturing contributes 25% of the GDP and is the second largest employer of labour. Zimbabwe's manufacturing industry has also suffered something of a battering in recent years as it is closely interlinked with the country's agricultural and mining industries. The lagged effects of the 1992 drought and the impact of international recession have been compounded by increased competition following the lifting of trade restrictions in 1992 and increasing input costs. Inflation also continues to cause problems with the current annual rate running at around 24%. Also, internal lending rates in the order of 30% are hardly conducive to the expansion of employment opportunities through market-led growth.

142. Despite the high levels of unemployment, there are skills shortages in various of the industrial sectors, with private industry managers complaining about the lack of skilled craftspeople at supervisory level in particular and the lack of sufficient opportunities and/or the appropriate training programmes to adequately upgrade workers' skills. There is also reported to be a shortage of well-qualified managers, experienced in confronting the increasingly competitive trading environment caused by the removal of protected status. However, up-to-date, reliable statistical data identifying the extent of the problem does not appear to be available at the national level.

Economic Structural Adjustment Programme (ESAP)

143. ESAP has been the prime instrument employed by the Government of Zimbabwe to improve the economy. One aim of this programme is to shift production from industries focusing on the internal market to more export-oriented industries. In other words, policies designed to reinforce ESAP's objectives are expected to increase the demand for labour in export sectors and lower the demand for labour in the less efficient domestic sectors. ESAP commenced in 1991, but the anticipated growth of export-related industries has failed to materialise on a substantial scale, and thus employment opportunities have not been created in this sector on the scale envisaged. Meanwhile the removal of protection from the domestic sector industries has resulted in a contraction of this sector - thus contributing to the current high unemployment levels. In its second five-year national development plan (1991-1995), priority is given to the development of science and technology, providing the rationale for the establishment of the new National University of

Science and Technology as well as for investment in related programmes in the colleges, polytechnics and universities. Overall the education services sector is projected to grow at an annual rate of 4%. The plan also emphasises that "priority will be placed on projects aimed at advancing technical skills and research capabilities of Zimbabweans".

Labour market information

144. Zimbabwe has received considerable support on matters relating to labour administration over the past decade from the *African Regional Labour Administration Centre (ARLAC)* - an autonomous intergovernmental organisation supported by the ILO and whose headquarters are just outside Harare. While ARLAC provides training, research, consultancy and issues publications, it does not itself specifically collect data on labour market indicators in the member countries. ARLAC does maintain an information resource centre and collects reports and other documents relating to labour market issues contributed by the member countries. Its main involvement in relation to the gathering of labour market information is in offering consultancy services to requesting agencies (particularly government departments) on how to improve their data collection techniques.

145. In late 1991, the ILO (through ARLAC) conducted a review of the methods employed by the Zimbabwe Ministry of Labour, Manpower, Planning and Social Welfare in collecting and analyzing labour statistics. The resulting report made a number of recommendations designed to improve the collection of more pertinent information and to facilitate the processing of such data (particularly by introducing more microcomputers). In addition, the report recommended that this Ministry urge the Central Statistical Office to tailor information it provides in forms which could potentially be more directly applicable and relevant to policy planning and evaluation. The adoption of the recommendations contained within this report was not evident from information gathered during visits to two of the Departments within this ministry (which incidentally, has been restructured since the issuing of that report).

146. At the national level, the *Central Statistical Office (CSO)* is responsible for collecting data on all aspects of the Zimbabwean economy. It undertook a labour force survey in March 1994 but the results are not yet available. Analysis of the census data gathered in 1992 was the priority for the CSO in November 1994. Data users which pointed out that outputs are usually in the form of raw data, and they suggested that it would be helpful if CSO reports could include more interpretation and analysis. It was acknowledged at the CSO that there was a need for training those involved in the analysis of data to have more training in data-entry and analysis skills. The CSO does, in fact, have its own Training Unit which is attempting to address such needs.

147. The *Department of Employment and Employment Development* within the *Ministry of Labour, Manpower Planning and Social Welfare* also collects a considerable amount of labour market information. Such information includes statistics on the number of unemployed, on manpower supply and demand, on vacancies advertised by private employment agencies, and on the numbers of retrenched workers who are being assisted

by the Social Development Fund. Data collection is done via questionnaires, job analysis (from time to time within certain sectors of industry), their placement service statistics and from some secondary sources. Despite collecting a significant amount of labour market information, it appears that much of this is not analyzed due to lack of suitably trained staff and computing facilities. The Department uses information collected to produce regular bulletins and career guides which are sent to schools.

148. The *Labour Market Research section* within the *Ministry of Higher Education* also collects labour market data. It collects data on manpower needs at national level by sector and occupation, investigates the employment experiences of recent graduates, and undertakes research into the effects of technological change on the labour market. This unit has only moved comparatively recently to the Ministry of Higher Education from the Ministry of Labour, Manpower Planning and Social Welfare. The ILO has assisted it to develop its techniques for carrying out labour market studies, but it was not possible to ascertain the impact of their involvement.

149. The unit uses a wide range of data collection techniques, but their outcomes do not as yet seem to be widely disseminated. Some of its work seems to be tailored to meet the planning requirements of donor organisations. Potential LMI users within the Ministry indicated that the unit's reports, while professionally presented, do not provide sufficient detail to identify skill shortages and develop appropriate training programmes. Interviews with principals of the various educational and training institutions also indicated that, while they receive information about research conducted by the Ministry of Higher Education concerning curriculum needs for particular industries, they do not receive any information regarding general labour market indicators.

150. The *National Manpower Council (NAMACO)* is an advisory committee to the Ministry of Higher Education and its role is to provide advice to government on manpower training and development needs. It is composed of representatives from the employment and educational sectors, but it was not possible to obtain information on how it collects information on which to base its advice.

151. The *Reserve Bank of Zimbabwe* systematically collects monitoring statistics for the financial sector, providing a macro analysis of the financial performance of sectors within the economy on a quarterly basis. They too, however, are reliant on the CSO for key data which, because it is not as up-to-date as would be desirable, presents some problems. Even so, their published quarterly economic and statistical reviews, as well as their monthly bulletins, are widely used by employer and employee organisations as well as by the University of Zimbabwe.

152. Of the employer and employee organisations visited, the *Zimbabwe Congress of Trade Unions (ZCTU)* demonstrated the most systematic collection and analysis of labour market information via its small *Research and Economics Unit*. This unit has set up a network of over 30 union-based researchers within those industries employing union members, and these assist the two full-time economists in collecting information. The unit conducts employer surveys, undertakes newspaper scanning on a wide range of issues including

wages, strikes, new investment, industrial relations, retrenchments, etc., analyses available census data, and undertakes time series data analysis on wages by sector. The outcomes of ZCTU's research is mainly used to inform its own training provision, for internal policy-making and for use in collective bargaining situations. While the ZCTU appears willing to make most data it collects publicly available, there seemed to be only limited awareness of its availability in the educational and training institutions visited.

153. The *Confederation of Zimbabwe Industries (CZI)*, an association for Zimbabwe industry, employs an economist to collect and analyze labour market data, mainly for the purpose of representing the interests of its members to government on matters such as industrial relations, price control, exporting incentives and import protection. It collects data on wage levels and job vacancy rates from its member organisations, but has to rely on government publications for other data, which it complains is insufficient and often dated. The CZI has proposed that a new Productivity Centre be established as a national institution and that its prime function should be to concentrate on researching labour market issues.

154. The *Employers Confederation of Zimbabwe (EMCOZ)* provides advice to NAMACO on employment policy issues and also has a role in examining how the Ministry of Higher Education might address training needs' issues for employers. It has a small resource centre containing publications related mainly to labour relations issues but has not conducted any research studies into labour market issues for some time - due mainly to resource limitations. Its main mechanism for obtaining general labour market information is through a variety of standing and ad-hoc committees and via its Executive Committee, which includes employer representative from all sector of industry.

155. *DELTA Corporation*, one of the 'big five' multi-national employers, through its internal *Mandel Training Centre* gathers data on labour market issues from the various divisions of the corporation. LMI collected includes information on management succession and job vacancy rates across the divisions. Data collected is mainly used to inform the planning of internal training programmes.

156. Within the seven education and training institutions visited there was only limited evidence of systematic collection of labour market data for the purposes of informing training provision. Most information about labour market needs tends to be obtained through advisory committees, usually established at both the institutional and the faculty/departmental level, and including relevant industrial and government department representatives.

157. One exception is the Engineering Faculty of the *University of Zimbabwe* which, in addition to its Industry Advisory Committee, has appointed an Industrial Liaison Officer whose role includes collecting information on industry needs as they relate to engineering areas. The faculty also works closely with the Zimbabwe Institute of Engineers, which has undertaken studies on labour needs within the industry. The faculty is planning to carry out its own destinations' surveys of its graduates and to acquire the services of a statistician, with a

knowledge of the various categories of engineering, to carry out more in-depth research on related labour market issues.

158. The Department of Student Affairs at the University of Zimbabwe has intermittently collected destinations' data on graduates since 1976, although their current response rate is only about 40%. Copies of their reports are circulated to the faculty heads, the University Registrar and Vice-Chancellor and to the Graduate Employment Committee which the Department of Student Affairs convenes. At present the university is producing approximately 2,000 graduates per year and recent surveys indicate that, in general, it is now taking graduates longer to obtain jobs. The main problem areas in placing graduates currently appear to be from the faculties of Engineering, Agriculture and Economics.

159. The *Institute of Technology* located in Harare has nominated Liaison Officers for each of its three departments, who are responsible for liaising with industry to obtain suitable work placements for the industrial attachment year of the three year courses and to help place graduates in permanent positions. The Institute also has an Advisory Committee chaired by an industrialist which meets once per term and includes all heads of department.

160. The *Westgate Vocational Training Centre* in Bulawayo obtains information on the results of the trade testing department of the Department of Labour. Apart from this information, which is fundamental to its internal recruitment processes, it does not collect any information about the labour market. The principal suggested that there was a particular need for research into the training needs of workers in the informal sector.

161. *Bulawayo Polytechnic* uses a number of industry sub-committees to obtain information about the labour market but does not collect any specific data. Nor does it collect data on student destinations.

162. A number of educational and training institutions indicated that they would value better access to labour market information, but would not be able to justify the resources required to collect systematically and analyze such data on a regular basis. It was suggested that a consortium of institutions might be able to collectively support such research, or alternatively for it to be carried out on their behalf by a government department.

Vocational and technical education

163. The government-supported technical and vocational colleges provide places for approximately 15,000 students, representing an expansion of over 400% since 1980. As part of its 1991-1995 National Development Plan, the government has reviewed and standardised the technical and vocational qualification structure in an effort to streamline the multiplicity of courses offered by private providers. The structure comprises five levels: pre-vocational certificate, national foundation certificate, national certificate, national diploma and higher national diploma. Vocational and technical training comes

under the remit of the Ministry of Higher Education, which has developed a 'Master Plan for Human Resource Development' as part of its strategy for determining policy priorities.

164. Government-funded technical and vocational institutions include two polytechnics based in Bulawayo and Harare, the Institute of Technology in Harare and two vocational training centres - one in Msasa (Harare) and the other in Bulawayo. The vocational training centres provide short-term courses to upgrade skills of employees already in industry to assist them to obtain skilled worker status. The Post and Telecommunications Corporation (PTC) has established two Training Centres in Belvedere (Harare) and near Gweru, which primarily provide training for its own personnel. The Zimbabwe College of Forestry provides certificate and diploma level courses as well as short refresher courses for employees in the industry. The Natural Resources College provides training for wild life and natural landscape conservation officers. There are also three energy technical training centres located in Harare, Hwange and Bulawayo providing technician training for trainees in the power industry both for Zimbabwe as well as for other African countries.

165. Two Youth Training Centres of a proposed eight have been set up by the Ministry of National Affairs, Employment Creation and Co-operatives. These centres are designed to provide basic skills training in a variety of vocational areas and to provide access opportunities to the technical colleges.

166. Six agricultural colleges provide agricultural training for just over 1,000 students each year. Four of these colleges offer courses at certificate level, while the other two provide courses up to diploma level. There are also 14 teacher training colleges producing around 4,000 teachers per year. The government is also establishing a network of public service training institutions at national, provincial and district levels.

167. Zimbabwe has two main universities, the University of Zimbabwe based in Harare and the very recently established National University of Science and Technology located in Bulawayo. The establishment of this new university is a manifestation of government policy emphasis on developing science and technology within the framework of its long term planning for economic and social development. The number of graduates from the University of Zimbabwe has increased four fold since 1980 and the range of programmes expanded to include Veterinary Science, Rural and Urban Planning, Masters in Business Administration, Economics, Bachelors of Technology and of Education.

168. In addition to these public educational institutions, there are many private vocational training institutions. Private colleges provide training for over 12,000 students per year, mainly in the fields of managerial, secretarial and IT training. In 1990 there were 108 registered private colleges. A privately owned Africa University is also being established at Mutare by the United Methodist Church to cater for students from all over Africa. There are also training facilities associated with particular industries - either as established training institutions (e.g. Clothing Training College) or training programmes organised by employer and employee organisations.

169. The five major-multi-national corporations in Zimbabwe provide in-house training, the most notable of which are Organisational Training and Development (Pvt) Ltd. set up by Anglo-American and the Mandel Training Centre referred to above. Professional associations such as the Institute of Personnel Management Zimbabwe and the Zimbabwe Institute of Management provide a variety of short and longer term training programmes for members and trainee managers.

170. The lack of appropriately qualified staff is a major ongoing issue for the public vocational and technical training sector, with quite high turnover rates as experienced staff are lured into the private sector by the higher salaries offered there. A number of donor agencies provide staff development programmes to help alleviate the situation and expatriate trainers are recruited to help make up the shortfall. Over the past few years there has been considerable investment via the Zimbabwe Manpower Development Fund (ZIMDEF) in upgrading and providing new facilities and equipment for the vocational and technical institutions.

Applications of LMI

171. Planning for the government funded vocational and technical education and training sectors is strongly centralised and institutions do not appear to have much autonomy over their own range of provision. It is, therefore, not surprising that they do not place much emphasis on market research or the use of labour market information to inform their provision. The Ministry of Higher Education and its agencies have prime responsibility for developing the policies and for directing the funding towards those aspects of vocational and technical education and training which it prioritises. The Curriculum Research and Development Unit (CRADU) of the Ministry co-ordinates the development of all vocational and technical education programmes through two main examination councils. The Labour Market Research section within this Ministry is, therefore, the main source of labour market information informing the Ministry's policies. The Ministry has not released the results of the section's manpower studies so that, as indicated above, they have not yet impacted directly on the work of TVET organisations.

172. While government policy is likely to continue to insist upon the central planning of vocational and technical education provision, the government is encouraging institutions to provide more outreach services locally and to specialise in those areas that service the local area - in addition to their national remit. Key personnel in vocational and technical education institutions, as well in employer and employee organisations, indicated that they would welcome greater and better access to a wide variety of labour market information. They identified two main problems obstructing their use of information about the labour market:

- labour market data which is available tends to be highly aggregated, which considerably limits its usefulness and potential applications; and

- much of the data available from government sources is dated and therefore of limited value to forward planning.

173. Several government ministries collect various types of both qualitative and quantitative information about the labour market - at least as it relates to the formal sectors. Information concerning the informal sector labour market is noticeable by its almost complete absence. There does not appear to be much evidence of coordination or sharing of labour market related information between the various ministries and much of the data collected lies dormant, awaiting some form of analysis. Considerable support and advice on the organisation of data collection and analysis has been provided to these ministries by agencies including ILO and ARLAC. The implementation of their recommendations is heavily dependent on the will, resources and capability of senior officials in the relevant departments.

174. The establishment, as suggested by CZI, of a *Productivity Centre* may warrant further attention. An independent organisation focusing on research into labour market issues may provide a means of accessing the more specific labour market signals inherent within the particular sub-sections of the broad industry sectors and more effectively collating and analyzing data published by current collectors of this information in both the public and private sectors. In the current climate, it seems doubtful that the vocational and technical education institutions (many of which are quite small) will be sufficiently motivated to do much more themselves about collecting labour market information than they already do via their Industry Liaison Officers (where in place) and their advisory committees.

D: KINGDOM OF CAMBODIA - A UNIQUE OPPORTUNITY TO CREATE A TAILOR-MADE LMI SYSTEM

Background

175. The Kingdom of Cambodia comprises a population estimated at about 9 million (although accurate figures are not available), of which around 8 million (89%) live in rural areas. The rate of population growth is approximately 2.5% per year. Due to continued strife and unsettled political conditions which have followed two decades of internal conflict, many socio-economic indicators appear unusually skewed. For example, life expectancy is improving but remains low at 36 years for males and 39 for females. Approximately one-third of the total population is below 15 years of age. Per capita income is less than $100 and nearly one-third of all households are headed by women. The present condition of Cambodia's physical and social infrastructure is very poor and every sector, including all government departments, are in the process of restructuring and re-orientating their plans for strategic development.

176. It is important to note that the situation in Cambodia has not always been so chaotic. In the late 1960s the pace of socio-economic development was better than many of Cambodia's regional neighbours. During that period the economy registered an impressive growth rate of 5% per annum and, although the economy was primarily agricultural, there was evidence of a wide range of small to medium sized enterprises which constituted the manufacturing sector, contributing about one-fifth of total GDP. By 1970 there were 18 large scale industrial plants and 3000 smaller units. Altogether these included 500 saw mills, several paper mills, cigarette factories, two cotton mills and a cement factory.

177. The growth in education from 1953 to 1970 was also impressive, reflecting the 12.2% of the national budget allocated to the sector in 1954, rising to over 20% in the period 1967-69. In 1955, vocational training was offered by five specialized schools with an output of less than 400 students. By 1969/70 there were 43 public vocational and technical schools and 64 private centres serving approximately 5,800 students. A series of small, specialised technical training centres had been established providing three years of study in skilled trades. One such institution was the Centre for the Training of Technicians which taught electricians, automobile mechanics and general mechanics. Located at Batambang, this centre enjoyed a well deserved reputation for excellence throughout the SE Asian region.

178. All these achievements were destroyed in the widespread death and destruction which accompanied the chaotic events of the 1970s and 1980s. Nevertheless, present developments in Cambodia provide a window of opportunity for socio-economic progress. Unlike the 1950s, the contemporary process of development is more complex and competitive in nature, and special attention will be needed to ensure the systematic improvement of human resources development for all socio-economic sectors. This is particularly important if equity factors and the quality of life are to remain viable and attainable goals.

Current Status of Human Resources Development

179. The erosion of human capital has been the biggest loss during the past two decades with a generation of skilled craftsmen, technicians, technologists, teachers, engineers and managers eradicated from the labour force. Only in the past few years has the manpower situation started to improve but even now there appears to be a net loss of key skills, due in part to outward migration and partly to the reluctance of many newly trained professional and technical workers to participate in the regular economy. If the process of economic and social restoration is to be effective, indigenous human resources must begin to play a more effective role in the development process. In particular, there is a need to improve the composition and efficiency of the existing Cambodian workforce across all the sectors of development, thereby reducing the current over-reliance on foreign workers, who are found in abundance in all economic sectors with the exception of agriculture. Over-reliance on foreign workers should be corrected by improving the facilities, relevance and standards of skills training for indigenous trainees, providing comprehensive career guidance to new entrants to the workforce, and by making employers aware of the potential long term benefits to productivity from engaging a regular Cambodian work force.

180. The Asian Development Bank (ADB) fielded a mission to Cambodia in December 1993 to examine these issues and the mission's report gave first priority to human resources development as the focal point for national reconstruction. In particular the mission highlighted the need for a labour market information system as part of an integrated manpower development plan. A general overhaul of the organisational framework of public administration is being addressed by the United Nations Development Programme (UNDP) with technical assistance from France, which together have prepared a civil service reform package. Unfortunately, detailed aspects of strategic implementation, such as the means by which manpower data can be collected, collated and assessed, are not included in this package. The ADB mission noted that the current restoration period is characterised by major distortions in the labour market which, if left uncorrected, will cause many subsequent problems. There is an evident lack of Cambodian workers with the required levels of technical and vocational skills demanded by the current spate of investment projects (particularly those supporting physical infra-structure - roads, bridges, railways, ports and harbours). This local shortfall has resulted in an influx of both casual and contracted workers from Vietnam and Thailand as well as more specialist workers and technicians from Korea, Taiwan and Philippines.

181. There is no official tally kept of the numbers of such migrant workers, and donor agencies have been too grateful to accept imported skills to concern themselves about the long term effects on the Cambodian labour market. Similar skill shortages are also hampering the development and/or expansion of the manufacturing sector. Present facilities for manpower development are under-resourced, and need refurbishment and re-equipping. Policies and programmes by which to address the medium and longer term manpower problems cannot be properly formulated or coordinated because of a serious deficiency in reliable labour market data.

182. For this reason the ADB mission identified "an urgent requirement to institutionalize a system by which to maintain detailed quantitative/ qualitative data relating to all aspects of the labour market, including details of the supply of manpower emanating from existing training institutions and the demand for skills at all levels within both the public and private sector" (Asian Development Bank, 1993). The report also focused on the need to provide data on inputs/outputs and curriculum content and standards for all training programmes undertaken by other training facilities identified within specific ministries and departments as a first step in coordinating the HRD system. In addition to the training venues identified in Phnom Penh, it was recognised that there are other institutions in the provinces under the jurisdiction of provincial governors and provincial line ministries, although few such facilities are currently operational in the south, south-east and north-east of the country. These facilities also need to be integrated into the overall development strategy, providing data on their outputs and receiving information on local labour market demand.

Key Issues

183. Key issues related to human resource development can be summarised as follows:

Absence of manpower data, systems and strategies

184. There are no regular systems for collecting data relating to manpower supply or demand. Even when data is assembled by an international agency it has not been current practice to follow standardised procedures or to install on-going data collection facilities. The Government has indicated that the Ministry of Education will be responsible for coordinating **all** aspects of manpower development, irrespective of which ministry or sector may undertake the training or who may be the end-user of the trainees. In early 1994, however, the Ministry of Education lacked the technical capacity to initiate procedures or strategies by which to accomplish such coordination. At the time of the ADB mission there was no recognition afforded to basic LMI techniques such as the use of key informants, the development of tracer studies or the identification of training needs.

Restructuring training institutions

185. At the macro level, there is a severe mismatch between the policies, programmes and curriculum of existing training institutions and the requirements of the national rehabilitation effort. In the absence of reliable information relating to employment needs, most educational policy (and the TVET curriculum in particular) is at best guided by assumptions rather than hard facts. At the institutional level, each establishment tends to reflect its extreme socialist origins, and institutions in general are very bureaucratic in their organisation and management, lacking autonomy as well as the techniques to make flexible responses to local labour market signals. Restructuring should aim at reforming such training institutions so that they reflect the needs of the new socio-economic context of Cambodia.

Absence of organised in-plant HRD

186. In the absence of information on how, who or why to train at the enterprise level, most employers, whether public or private, find it easier to recruit new specialist staff, often selecting their workers from the local migrant worker community or arranging special contracts with suitably skilled workers from neighbouring countries. There is a Chamber of Commerce in Phnom Penh and a not so well organised Manufacturer's Association, but neither institution has even considered HRD as an area of concern since they are too busy with fundamental economic issues about tariffs and trade.

Lack of horizontal coordination

187. Formal skills training in an institutional context is undertaken by a variety of line/sector ministries or departments. In the absence of any lateral coordination, these institutions have become narrowly specialized with little or no horizontal linkage to each other. They are only responsive to the guidelines and instructions of the parent ministry and this tends to isolate their achievements and narrow their perspective. It also impedes effective curriculum design because the absence of inter-disciplinary and multi-disciplinary processes fails to deliver the level or variety of skills sought by public or private sector employers operating in rapidly changing markets. In the absence of any defined system of certification or standard setting for HRD, each institution trains to its own internal criterion and arbitrarily set levels of instruction. An example of the resultant mis-match is the Ministry of Education which, through its series of vocational training centres in Phnom Penh and Batambang, is supposed to prepare trainees for employment by the Ministry of Highways. Unfortunately, lack of coordination means that potential employees are not taught the full range of required practical skills in civil engineering or construction trades and the Ministry of Highways claims it has no option but to employ foreign technicians and engineers.

Lack of facilities and support systems

188. Institutions lack minimum standard facilities, especially equipment in laboratories and workshops, and there are insufficient numbers of books, journals or newspapers available in their libraries. Many institutions have no water or electricity while, due to a severe shortage of recurrent funds allocated by central or local government, financial resources are frequently inadequate to pay even the low basic salaries of teaching staff. This results in low morale, with many teachers failing to report for work but looking for alternative employment instead. Improvements in the quality of training through development and modernization of equipment is urgently needed in order to develop both state and privately organized training services, particularly at provincial level. Staff salaries, allowances or incentives need to be made more attractive and better provision made for upgrading the technical and pedagogical skills of both existing teachers and new entrants to the profession.

Limited capability to meet future demand

189. In the absence of a coordinated and properly functioning training system, neither central and provincial government nor individual institutions have the capacity to plan, monitor and evaluate the supply and demand for skilled workers across the whole spectrum of manpower, ranging from simple trades to the use of sophisticated computer software; from entry level skills to technicians, technologist and managers. Likewise, manufacturing and service sector enterprises find the absence of information on institutional output levels and inadequate certification a major reason for distrusting the formal TVET system. Unless this situation is rectified, the country's capability to introduce further reforms in key economic sectors of the economy will be weak, recurrent skill shortages will delay development schedules, and the lack of labour mobility will inhibit the much needed rise in productivity within sectors. The absence of relevant LMI will also delay the process of curriculum reform or will encourage curriculum development to proceed in a vacuum. Meanwhile the cooperation of employers and enterprise management cannot be achieved so long as they remain uninformed of what role they can play in the overall TVET system.

Government Policies and Plans

190. The present situation in Cambodia provides tremendous opportunities for change, innovation and reform. Since 1988 Cambodia has modified its economic policy, moving from a socialist, planned economy to a more liberal, market-oriented economic system. Furthermore, the country is opening up to foreign investments and economic relations with its neighbouring countries. The Ministry of Education, Youth and Sports has been given responsibility to provide the overall direction and guidance for skills training and development and according to its new charter must develop plans for "establishing a new operational mechanism for human resource development which would play a dynamic and strategic role in the newly developing market-oriented economy in line with the changing needs of society". However, as of early 1994, detailed implementation plans had yet to materialise. An embryonic curriculum reform unit for TVET was established as part of an ILO project but it lacked any direct linkage with curriculum development in mainstream primary or secondary education, had no regular input from the world of work, and did not fit into an overall system or framework for manpower development. Related ILO efforts aimed at rehabilitating vocational training facilities also suffered from the absence of a coordinated TVET system.

191. A detailed study of Cambodian technical and vocational education and training was undertaken by ADB during the first months of 1994, but the results of this study are not yet available in the public domain. However, it is known that the study confirmed the need to upgrade the standards and efficiency of the workforce across all the sectors of the economy. But the report also noted that responsible government officials, together with the staff of training institutions, find themselves ill-prepared to address the magnitude of the issues confronting them and that this problem is further compounded by a lack of adequate or reliable manpower data by which to prepare overall educational strategy and relevant management plans.

Putting an integrated LMIS in place

192. The Government has endorsed the requirement to develop a more proactive and coordinated approach to the problems of manpower development in Cambodia. All the available evidence demonstrates that this task is hampered by a serious lack of detailed information about most aspects of labour supply and demand, which hinders any form of effective coordination, encourages duplicative reform measures, and prevents relevant curriculum development. For this reason, a high priority under any future technical assistance should be the setting up of a basic labour market information system which could support the overall HRD system and feed vital data into such critical components as policy formulation and curriculum design. As political and economic conditions stabilise and improve, this basic LMIS could be expanded to incorporate district and provincial level data and modified to accommodate other related issues. The starting point should be the development of an integrated information system which feeds relevant data into a flexible manpower development strategy designed to serve both the supply and demand sides of the labour market. Figure Three illustrates how the basic components of the system should interact.

193. On the supply side, quantitative and qualitative data would be provided through the Ministry of Education concerning outputs from primary and secondary schools, post-secondary vocational training centres and tertiary level institutions, as well as the numbers and attainment levels of the unemployed or those seeking alternative employment through continuing adult education services. On the demand side, employers and the self-employed of the informal sector would be encouraged through appropriate seminars and workshops, as well as by the efforts of industrial extension workers currently employed by the Ministry of Industry, to quantify and qualify their own needs in terms of the numbers, types and levels of skills required. In the absence of fully functional intermediary bodies as Chambers or Associations, extensive use should be made of selected key informants to provide indicators of training need. In the meantime the representative bodies should be encouraged to endorse a higher profile for HRD issues and, in the light of these training and development opportunities, review their roles in relation to LMIS. They should also assess the advantages such cooperation can bring in terms of improved productivity.

194. During the initial phase, data would be fed into the system where it would be analyzed to see what differences exist between the supply of and demand for manpower. Indications of priority needs would be passed on to those responsible for macro-level policies and plans, both within government and at the enterprise level, where (if the results are seen to be relevant and reliable) they would engender further support for the consolidation of the LMIS as a whole. Further down the line, such information would form the basis for the revision and/or development of curriculum to make the formal supply sector more responsive to labour market needs and provide basic data for an elementary career guidance system. It could also be used to design in-plant training to supplement the anticipated skills of new entrants to the workplace and to plan for future off-the-job staff development.

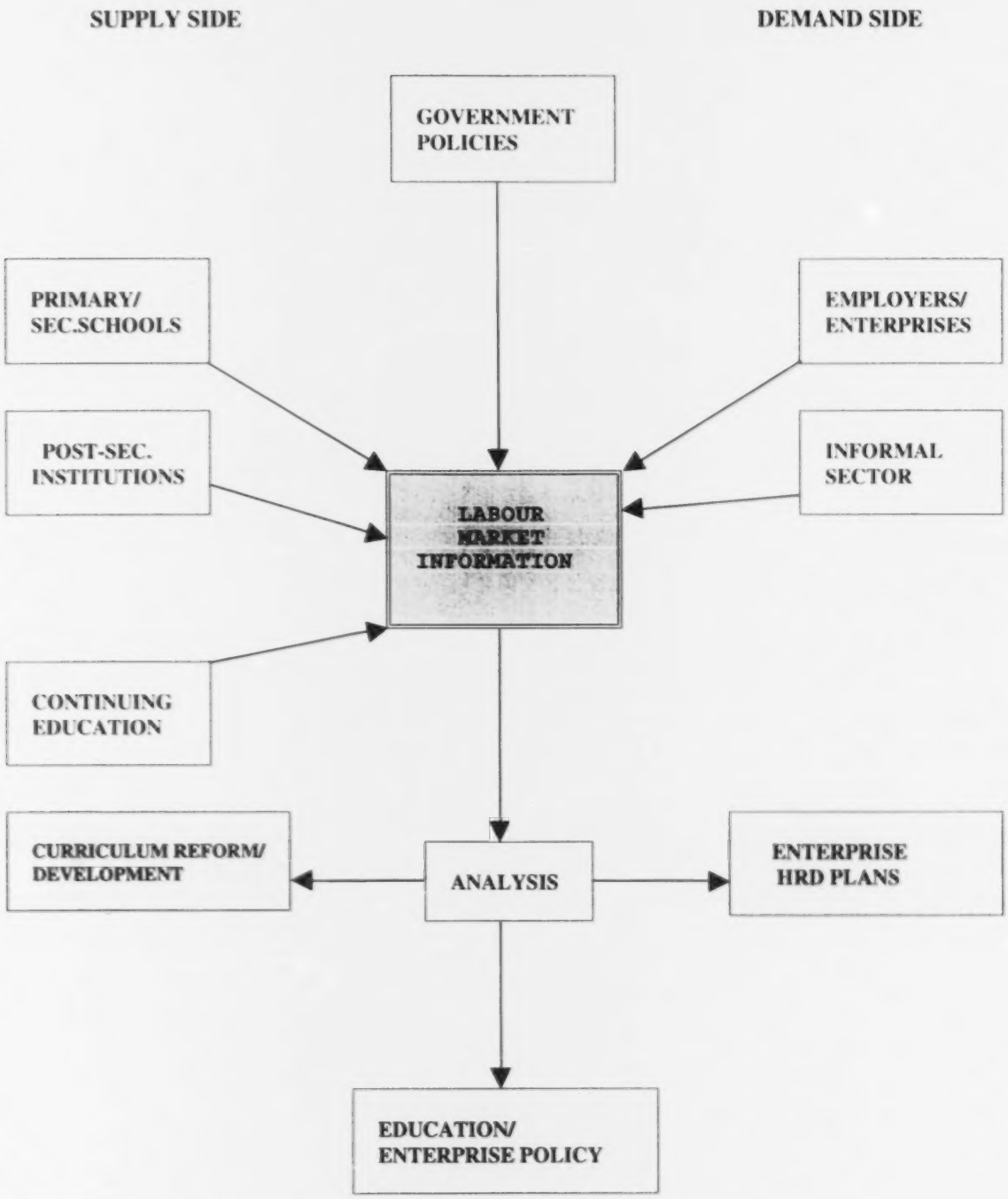


Figure 3: Outline labour market information system in support of Cambodian HRD

BEST COPY AVAILABLE

The first steps

195. At present, the activities or functions represented by the shaded portion of Figure Three do not exist as part of an integrated national system. In schools, post secondary training institutions and the larger sized enterprises, most management and staff are unlikely to know why they need LMI. Nor would they know what to do with such information if it were readily available. Given that there is no current LMIS in place in Cambodia, the procedures for collecting, collating, analyzing and disseminating data can be designed to reflect the best practices known to labour market economists at this time. Procedures should be installed for gathering and comparing data relating to labour market signals on:

- population growth rates versus employment growth;
- education expansion versus the size of the labour force;
- unemployment rates and associated skill status compared with the changing occupational composition of those in employment;
- secondary school leavers and their experiences; and
- internal/external labour migration.

196. A major part of any technical assistance programme would be staff development programmes designed to develop the skills of professional manpower economists tasked with compiling the data and undertaking its detailed analysis. But equally important is the need to develop the skills and understanding of those responsible for incorporating the findings into educational or enterprise policy, as well as those tasked with revising and up-dating curriculum or in-plant HRD plans and with the preparation of training methods and materials.

197. In its initial stages, it is likely that the LMIS would feed regular print-based data into both macro and local level policy formulation. The same source material would also be used in the process of curriculum planning, where it would contribute to the formulation of national standards and certification. However, facilities should exist for this print-based data to be complemented as soon as possible with a computerised network with data also available on disk or CD-ROM. Given that Phnom Penh moved quickly into a cellular phone system because traditional telephone lines and switchgear had been destroyed, there is a possibility that an LMIS could soon move to a simplified computerised information system. Cambodia represents a unique opportunity to install a state-of-the-art LMIS without having to dismantle previous systems or re-direct attitudinal approaches towards manpower planning.

198. Although Cambodia represents a special opportunity to develop a modern labour market information system, there are still many obstacles to overcome. The long years of internal war, chaos and confusion have removed many of the officials who might otherwise have formed the cadre of manpower economists and interpreters of labour market information.

Continued political turmoil and uncertainties in the economy will also render the design of an effective system more difficult. Added to this is the proliferation of aid agencies currently offering advice and technical assistance to the Government. A condition of any future technical assistance in support of LMIS should be that the Cambodian government has in place an overall HRD framework within which a labour market information system can operate, a framework which is impervious to any duplicative inputs which may be supported by other donor agencies. Provided that such concerns are well recognised and allowed for in the project design, the installation of a functional LMIS would be one of the most worthwhile and productive investments in the future development of Cambodia's infra-structure.

CHAPTER 5: KEY FINDINGS FROM THE CASE STUDIES

199. In this section, the major themes examined in the case studies are considered separately. These relate to the initial research questions posed in Figure One and Appendix Two. The four case studies have been compared with a view to drawing out significant commonalities and pointing up key contrasts between the case study countries.

200. Our findings are drawn from countries in three continents, ranging from less than 4 million people (Costa Rica) to over 118 millions (Bangladesh), with very different economies, levels of GDP and socio-political structures. We have taken care, therefore, to avoid broad generalisations wherever possible. Despite these enormous differences, it has, however, been possible to point to some issues concerning the operation of manpower planning and labour market analysis at local, regional and national levels, and to identify needs and issues concerning labour market signals and indicators which transcend national and international differences.

Why is LMI collected?

201. The reasons for the collection of LMI are diverse. No clear patterns were identifiable, except that different organisations collect LMI for different purposes. The intention is to use that information in formulating policies, whether by donor agencies, government departments, training providers, employers or labour organisations. There is strong evidence that LMI is collected as an instrument in government planning for industrial location, incomes policies and the reform of educational and training systems - but equally strong evidence that this information is far less significant in decision making than the influence of political concerns and pressure groups. Because the purposes are so diverse, much data collection is duplicated, and there are very few examples of data being shared by data-collecting organisations. Donor agencies collect LMI as a matter of course in order to justify aid projects. In each of the case study countries the major international aid agencies are instrumental in encouraging the collection of LMI, finding out employer needs before investing in aid programmes which meet those needs, but there are concerns that such information is not thereafter utilised in shaping those aid projects, and that it is not supported by follow-up studies, while the techniques for data collection and analysis are very rarely incorporated into regular government practice.

What LMI is collected?

202. Most of the data collected is quantitative. Census data is used where available, but much effort is put into collecting LMI statistics for specific purposes. Unfortunately, this data is generally collected at too high a level of aggregation for it to be of much use. Its usefulness is further impeded by the lead times involved in aggregating, analyzing and publishing the data. Much of the data lies dormant before analysis, while other priorities absorb the time of the limited numbers of people with the requisite analytical skills. There

are serious doubts as to the accuracy of this data, particularly as informants are likely to provide only that information which will support their interests or remain fearful of the true purpose of LMI collection and either avoid responding or give misleading information. In the case study countries, high levels of under-employment mean that there are few needs for LMI as a basis for industrial location policies - high unemployment and under-employment levels mean that industries tend to find their labour supply wherever they might be located, particularly in countries where migrant labour or expatriate labour is also readily available.

203. There is some evidence that the information collected by external agencies from companies is not particularly reliable. While large companies tend to respond to requests for LMI, small and medium enterprises are often less cooperative, particularly where the existence of payroll taxes presents a powerful disincentive for the accurate recording of personnel details. However, the confidential personnel data collected by large companies tends to be both more accurate and more heavily used than other LMI.

204. The evidence for the collection of 'soft' signals and indicators came mainly from the training organisations. Industrial liaison staff who keep in close touch with employers acquire motley signals and indicators about new training needs, opportunities for delivering new courses, and technological trends which require changes in the training curriculum. The information is not statistically based and in consequence has little credence outside the particular departments where it is acquired. It is, however, valuable information about the relevance of the current training curriculum, pointing not just to the need for change but to ways in which effective changes might be implemented. 'Key informants' from business and industry also provide some labour market signals where they sit on advisory committees at institutional and governmental levels. Too often, however, this information is not drawn directly from the workplace and is tempered by the political and social concerns of the informant.

205. The collection of signals about job vacancies and wage levels, obtained for example through scanning the newspapers, is used to some extent. We witnessed its effective use in Zimbabwe, where it forms part of the indicators used by the Congress of Trade Unions in supporting its wage claims, while in Bangladesh it is used by BTEB as a signal for priorities in curriculum development. Otherwise, even where such data is acquired, there is uncertainty as to what to do with it.

Who collects LMI?

206. Formal, quantitative labour market data is mainly collected by research units within government departments, and especially within Labour and Planning ministries. In each of the countries visited, we found evidence of several ministries separately collecting their own labour market information, without reference to each other and with much duplication of effort. The approaches are highly formalised, and are aggregated for the purposes of long-term manpower planning. The rivalry between Labour and Education ministries is a phenomenon of central government throughout the world (to some extent reinforced by the preferences of international donor agencies). With respect to LMI, this is

compounded by the interests of governmental statistical offices and we found examples where the conflicting priorities and interests of these government departments impeded the effective collection and use of LMI.

207. As we have noted, there is often a significant time lapse before the publication of findings from data analysis. In some countries, specialist research units within the universities and specialist institutes are contracted by government departments and international donor agencies, as are consultancy firms, including, where they have local offices, the (expensive) major multi-national accountancy/consultancy houses. We found little evidence of speculative investigations to collect and then sell on information. As indicated above, the Zimbabwe Congress of Trade Unions collects its own information, as a basis for both pay negotiations and internal training provision.

208. Non-governmental agencies were identified as effective collectors (and users) of LMI. In both Costa Rica and Bangladesh, NGOs were the only organisations working effectively with the informal sector. They identify the distinctive needs of microbusinesses and disadvantaged groups such as the handicapped and female workers, notably developing strategies which avoid locking women into traditional (and particularly poorly paid) areas of work.

209. Some of the most effective examples of LMI collection and use were found within training institutions, where individuals had been released from training duties to liaise with employers and identify ways in which training might be made more relevant. The data collected was labour market intelligence rather than hard statistical data, but it had the double benefit of improving the curriculum and enhancing the credibility of the training organisation with employers.

210. The structure of advisory committees based either on individual training institutions or on industrial sectors (e.g Cost Rica's *camaras*) provide a potential ready-made system of 'key informants'. However, as indicated above, these have their limitations in providing useful insights into labour market needs, as the information circulated for and at such committee meetings depends on the particular interests of the current industrial representatives on the committees. The chambers of commerce themselves collect some LMI, mainly to use in trying to persuade the government to provide or retain tariff protection, tax regimes or wages policies which favour their sector. However, they are unwilling to share their information with other data collectors. There is, in consequence, little discussion between analysts as to the relative effectiveness of particular approaches to data collection and analysis, and no cumulative body of experience and expertise which improves the processes of labour market analysis.

What techniques are used for LMI collection and analysis?

211. The most common investigative technique is the postal questionnaire survey, supplemented by census information. Telephone interviews with companies are employed in countries with good telephone services (such as Costa Rica). Newspaper scanning for

employment news and job advertisements is undertaken in Bangladesh and Zimbabwe. The tendency is for the development of long and detailed questionnaire surveys (see Appendix Three) whose very complexity inhibits completion and return rates.

212. Data analysis demands computer power which was either lacking in the countries visited, or was not matched by the systems design expertise which could structure data analysis to meet specified requirements. The plea for better computer facilities (met in each of the case study countries) is understandable, but such provision is pointless unless the outcomes of such analysis are both accurate and useful. In each of the case studies (except Cambodia) staff are available with the technical expertise to process data using modern computerised technologies. Indeed, in Costa Rica these skills are in sufficient supply for the development of a rapidly growing computer industry processing data imported from North America. The weaknesses lie in the quality of the LMI data being processed, the time taken to complete the analysis, and - most important of all - the uses made of the findings.

213. Less formal 'intelligence' is gathered by training organisations, particularly where they deploy staff to go out to employers, seeking information on new training needs, work placement possibilities, and technical developments within the industry which might influence the training curriculum. All organisations encounter such information. The most effective ones are able to make use of it to recruit more trainees, modify their curriculum and obtain industrial support and sponsorship. We found few examples of tracer studies being used, although they are commonly described as highly effective techniques.

Who uses LMI?

214. Given the problems outlined above - inaccurate data, poor return rates, long delays while it is processed and high levels of aggregation in the published findings - it is not surprising that we found only limited examples of LMI being used to enhance the short and medium term responsiveness of TVET. The most effective uses were by organisations whose LMI collection and analysis had a specific and bounded purpose, as with the Zimbabwe Congress of Trade Unions for pay negotiations and internal training provision, and (a few) departments within training organisations, to enhance the quality of their training provision. A key problem is that information is useful only in a political/economic climate in which decisions are based on information.

215. As indicated above, training organisations use informal 'intelligence' for a variety of purposes. However, the overall findings across the case studies are that only a few enterprising institutions are able to make effective use of this information, and we found none making effective use of central government LMI. Despite a worldwide move towards greater institutional autonomy in public sector education and training, we found that institutions were inhibited in using LMI, even where it exists in each of the case study countries. In Costa Rica data was collected by departments within institutions, which then modified the curriculum in accord with the findings - but had to do so discreetly because they were operating semi-illegally by deviating from government set syllabuses. The use of

such market intelligence was most effective where used by training consultants employed by international aid projects to develop new curricula and modify existing programmes. In these circumstances, the consultants and their local counterpart trainers work with the support of central government agencies and are not constrained by formal government syllabuses.

216. Large companies undertake and use their own internal labour market research in determining personnel policies including pensions schemes, recruitment strategies, the form and duration of contracts and in-house training provision. This information is confidential, and it tends to be both up-to-date and accurate, derived directly from personnel records and staff surveys. It is unfortunate that, because of this confidentiality, an important source of LMI is unavailable to TVET institutions and others who supply these companies with their labour.

Who benefits from LMI?

217. The benefit most commonly cited of LMI at national and regional levels is in deciding whether and where to site new training institutions or faculties /departments within them. Such decisions are, however, so strongly shaped by political factors that LMI is by no means the major determinant. There are numerous examples (drawn from both the developed and the developing world) of TVET institutions located primarily for short-term political reasons, even where rudimentary LMI pointed to the impracticalities of such a location. LMI has a temporary beneficial effect where it is used (as at present in Costa Rica) as evidence in reforming the national education and training curricula. Resources are rarely released to support such revision unless there is evidence that LMI has been collected. However, these short-term improvements are soon countered by the detrimental effects of an inertia deriving from the lack of both resources and political will which 'freezes' the new curriculum until it is so out of date that a new bout of reform is demanded.

218. Where aid agencies investigate LMI, the findings are used (in Bangladesh and Costa Rica) to fund new training facilities including workshops and equipment in vocational training institutions developed to meet those needs. However, it is disappointing that the now obligatory labour market analyses, which precede investment by the major international donor agencies in TVET systems, are used primarily in order to justify the initial investment project. We found only a few examples where that LMI was used thereafter to inform the key decision-makers in the local system as to the main findings and their implications. Nor did we find many examples of the continued collection and use of LMI during the development projects in order to monitor their impact and adjust their direction and structure.

What are the costs of LMI collection and analysis?

219. We failed to obtain useful evidence of the costs of LMI collection and analysis. In most organisations, the real costs are not identified, particularly where the work is undertaken by in-house research units who also undertake a variety of other survey work. Even where the costs are known, as when external consultants are employed, this is confidential information, which was not made available to us.

What are the training needs of collectors and users of LMI?

220. The needs of collectors/analysts and users of LMI are very different. Those responsible for the organisation of data collection and analysis need both quantitative and qualitative skills, including the ability to identify those techniques which work best in particular circumstances. Even where research organisations can be equipped with requisite data collection and analysis skills, they also need to have the clout to be able to make use of their findings either through their own training provision or by commissioning appropriate training with relevant training institutions. Organisations with a national reputation and role, such as BIDS and INA, have the potential to provide this. In Zimbabwe the Central Statistical Office has its own training unit, while training is also provided by ARLAC.

221. End users of LMI need training in order to make use of available data effectively and - just as importantly - to influence data providers to collect the data that users need, and present it in ways relevant to the needs of the end-users. Such training is in part technical, including the ability to draw inferences from statistical data, but is very largely attitudinal. The shift towards greater institutional autonomy implies that institutional managers will enhance their skills in order to take advantage of that autonomy. These enhanced skills include marketing and curriculum development capabilities, which together enable TVET institutions to act more responsively to their main clients, and in particular the labour markets which absorb their trainees and graduates.

How is the LMI system currently being improved?

222. International agencies are the main sources of intervention for improvement. The African Regional Labour Administration Centre (ARLAC) provides support for African states and is based in Zimbabwe. It has reviewed the methods employed by the Zimbabwean government and recommended ways of improving both the collection and analysis of data. In Costa Rica a national process of economic review around the Science and Technology Plan is drawing attention to the needs for effective data collection and analysis, in a country which looks forward to becoming an information exporter, dependent on the data processing skills of its people.

CHAPTER 6: MAIN LESSONS FROM THE RESEARCH

A SIMPLE EXAMPLE OF WHAT CAN GO WRONG IN THE ABSENCE OF SUITABLE LMI

"During the 1980s a multi million dollar project in Bangladesh was designed to support the provision of very basic employable skills to out-of-work youth in the rural communities. The project revolved around the provision of sets of hand tools to rural schools, where special classes ere held to teach simple carpentry and metal working tasks. Because the financial allocation for hand tools was high, the funding agency's regulations clearly stated that purchasing could not be undertaken locally but had to go out for international competitive bidding. In the absence of appropriate information, the contract was won by a European country which in due course delivered the tool sets according to the limited available specifications. Unfortunately, many of these tools could not be used. In Bangladesh, village carpenters assemble furniture with pegs and dowels rather than screws; saws cut on the up-stroke rather than the down-stroke, etc. At the time of the evaluation, most of the relatively expensive tools, including screwdrivers, packets of screws, saws and the smaller sized drilling bits had rusted away."

223. The basic finding from this research is that, while a wide variety of activities are undertaken which involve the collection and analysis of labour market information, the effects of this on the planning, organisation and delivery of TVET are minimal. This problem was succinctly expressed by Costa Rica's Deputy Secretary of Labour:

> "We are very clear as to what the productive sector needs. What we do not have is a practical plan to bring all the information together and put it to use."

224. Our research suggests that the problems are even more far reaching than this. The information which is collected is partial and much of it is out-of-date or inaccurate. It concerns the needs of the formal sector rather than the informal sector, and its main impact is within the agencies responsible for collecting it. The LMI is used infrequently, therefore, in conjunction with data and market intelligence collected by other agencies. Once it has been collected, it presents technical problems of analysis and interpretation; and when findings are eventually produced, they are not acted upon, whether because they are politically inconvenient or because the TVET institutions are unable to translate LMI findings into specific changes in curriculum content, delivery and resourcing.

225. Furthermore, we found that traditional, heavily statistical data collection and analysis techniques are still used, for the purpose of medium to long term manpower needs forecasting, despite the very substantial body of international evidence which discredits these approaches. However, it is encouraging that, where simpler approaches, based on market intelligence, are being deployed, these are effective in tuning training provision to the real needs of local labour markets and employers.

226. This chapter examines these problems from a number of perspectives. It first examines the technical problems of data collection, including difficulties in accessing data, defining key

concepts and processing the data collected. It then considers the agendas of the various parties involved in collecting and using LMI, and identifies some fundamental structural and political difficulties in seeking to improve the quality and effectiveness of labour market analysis. Finally, it proposes a framework for a labour market information system and for the effective use of specific labour market techniques.

Technical problems

227. One basic problem is the difficulty of distinguishing between some of the key concepts in labour market analysis. The central concepts of employment and unemployment present difficulties, which are not confined to developing countries. The United Kingdom government has been heavily criticised for the many changes which have been made in re-defining "unemployment" over the past two decades. Where there are no unemployment benefits, under-employment is the normal alternative to employment. The latter is normally, though not exclusively, within the informal sector, while recorded employment levels are mainly within the formal sector. But the definition of these two sectors presents further problems, as they tend to shade into each other, rather than form quite distinct spheres of activity. The point at which a one-person business registers as a 'formal' business, whether with the government, the chamber of commerce or a trade association, is determined by local factors such as tax advantages, available support structure and perceived status. The threshold between the two sectors is, therefore, blurred and information on the informal sector particularly difficult to extract.

228. Similar problems occur with other forms of data. Migration patterns are unclear where much of the migration is illegal. Population totals depend on the accuracy of decennial censuses and government estimates between censuses. School enrolments, literacy and numeracy rates and dropout rates all present data collection problems, particularly where funding regimes are based on student input data, with consequent built-in incentives to over-record enrolments and ignore dropouts. The work of the private training sector extends into the informal sector, with little record of numbers, achievements and particularly of those students combining learning with work through forms of informal apprenticeships. There is a strong data collection bias towards the formal sector. The problems of collecting data about the informal sector are considerable, and in consequence the sector's needs tend to be overlooked. This is particularly unfortunate where economic liberalisation policies are leading to extensive job-shedding in the formal sector and consequent job-seeking in the informal sector.

229. A rather different cluster of problems result from traditional emphases on quantitative data collection and analysis. These arise in part from the backgrounds and training of those responsible for the analysis. Careful adherence to best statistical practice is, oddly enough, itself a problem. Perfection becomes the enemy of the good, as it leads to evidence which does not become available until it is far too out-of-date to rely upon for short to medium term policy formulation. It also gives a spurious respectability to data whose origins are partial, inaccurate and in some cases deliberately misleading. A commitment to large samples, strict statistical tests, careful checks and re-checks and the confidentiality of such

data is hardly compatible with the need for quick analyses and broad-brush approaches, which identify the main trends.

230. For LMI to be useful at local levels it needs to be disaggregated in order to identify local trends and needs. It also needs to be rapidly published, widely disseminated and action-oriented in its findings, so that local managers can respond to those needs. However, the clients for this data are normally in central government ministries or agencies, concerned only with the broad national trends - and also concerned to apply to such data the standard governmental constraints on confidentiality. These problems merge with the political and structural difficulties discussed below.

Political and structural problems

231. The economies of the case study countries are all currently affected by the world-wide processes which are liberalising the global economy. These are accompanied by greater regional and national labour movements, which makes it doubly difficult to forecast trends in employment opportunities and labour availability. Despite their otherwise enormous differences, Bangladesh, Costa Rica and Zimbabwe are all in the throes of economic liberalisation and "economic and structural adjustment" policies. Ministers and government officials interviewed were unclear as to the likely consequences of these trends, for which they had neither data nor previous experience. In Costa Rica, a government minister forecast that the free trade agreement with Mexico would wipe out sectors of the agricultural economy, with unknown effects on the labour force currently in those sectors. There are also fears that investment which previously had been targeted for Costa Rica would shift to areas of Mexico and Guatemala with lower labour costs. In Zimbabwe, South Africa will pose a formidable trade competitor, especially as the ambitious economic targets set within the Economic Structural Adjustment Programme have not been achieved and unemployment continues to rise at an alarming rate, compounded by uncertain climatic conditions.

232. Such uncertainties create problems for government departments and politicians, who are expected to provide policies and actions which control their consequences. This compounds the traditional rivalries and suspicions in any governmental structure, leading to the resistance, found in each of the case studies, to inter-departmental cooperation in the collection, analysis and use of LMI. The "practical plan" referred to in the quotation at the start of this chapter is not achievable unless the various departments involved in LMI collection and analysis pool their resources and share their findings. Without a conviction that such actions will produce tangible benefits, it is unlikely that cooperation can be achieved - and the poor track record of traditional manpower needs forecasting approaches over the last three decades offers little assurance that tangible benefits are there to be achieved. It is not surprising that the lessons drawn by politicians and others from investment programmes driven by the World Bank and International Monetary Fund's commitment to manpower needs forecasts include a belief that, as information-driven policies have not worked, politicians and government officials should stick to intuition and ideology as the safest basis for decision-making.

233. Political and structural difficulties are not confined to governmental levels. The status differences between technical 'education' (usually in institutions run by the Education Ministry) and vocational 'training' (in institutions run by the Labour Ministry) are significant throughout the world, even where both types of institutions provide virtually the same training experience (as in Costa Rica). These affect political attitudes to the two sectors: it is generally more acceptable to reform the low status training sector than tackle the more fundamental inefficiencies of the higher status post-school education sector.

234. One of the main components of current, worldwide structural adjustment policies is the aim that TVET systems should become more autonomous, so that they can respond to market forces and operate in a 'training market'. However, the managers and owners of both public and private sector institutions do not necessarily know how to deal with these changes. They need marketing skills and good antennae which enable them to understand and respond to the labour markets in which they operate. These needs are compounded by the tendency for employers to hire untrained employees and train them as required once in post. This again requires new responses by training organisations, familiar only with the provision of full-time training programmes, to offer and support part-time and work-based training.

A framework for a labour market information system

235. The framework below incorporates the main features of a comprehensive LMI system, combining socio-demographic, labour market and training information. Much of this information already exists, but needs to be assembled in one place. A large proportion is statistical and is already collected in many countries, whether by the national census, the Education Ministry when monitoring training institutions, the Labour Ministry in its employer surveys, or the Planning Ministry when examining industrial location and population trends. Other data is essentially qualitative. It might be collected by central agencies, e.g. from inspections of TVET institutions. But much this data is less likely to be available or to be amenable to quantitative approaches. Here the use of appropriate signals and indicators and judicious sampling can provide valuable evidence at relatively low costs which complements the statistical data. The areas where such signals and indicators might be used are indicated in italics in Figure Four below.

236. The definition of an LMIS in Chapter 1 is expanded here in terms of both the functions and the components of an LMIS.

***LMIS functions**: To define, collect, process and analyze labour market information and to disseminate it in usable formats with analysis and commentary to concerned and competent persons and institutions, where it can be used in the development and/or adaptation of human resource development (HRD) policies at both macro and micro levels. Also to promote, manage, evaluate and develop itself.*

LMIS components:

i. *Users - individuals and organisations. (These are very important because if there is no demand for LMIS or understanding and appreciation of its uses and benefits, there is no purpose in constructing or maintaining it).*
ii. *Sources of signals, indicators and intelligence*
iii. *System managers, data gatherers, operators and analysts*
iv. *Labour market information itself*
v. *Methodology of data collection and analysis*
vi. *Equipment -computers and other hardware*
vii. *Processing software*
viii. *Means of communication, including public media*
ix. *Financial resources*
x. *Sub-systems:*
   - *training for system staff and end users*
   - *feedback and evaluation*
   - *research, development and publications.*

237. A basic Labour Market Information System is likely to require the following input/output data.

1. Socio-demographic Data

* Population over time by age and gender
* Population distribution by region
* Literacy rates by gender, age and region
* Migration patterns
* Main social ethnic groupings by size and location.

Other data may be added as a more detailed system develops, particularly information relating to health, wealth and social groupings.

2. Educational Data

* Enrolments by gender in primary, secondary and tertiary levels
* Numbers completing each level by age and gender, and as a proportion of enrolments
* Educational attainments by qualification level and gender
* Regional variations of above

3. Employment and Labour Market Information

* Macro level economic trends showing projected growth of various sectors (inclusive of informal sector), disaggregated by region
* Size of labour force and its projected growth, overall and by sectors
* Size of any migrant labour groups and their origins, by region
* Distribution of workers between modern wage employment (formal and informal)

- and its projected growth
- Growth or contraction of wage employment by occupational sector
- Skill level of workers by occupation/sector
- Levels of unemployment and under-employment by age groupings and gender, by sector and educational/training attainment, disaggregated by region
- Levels of youth unemployment and under-employment by gender and region
- Identification of training needs as reported by sector.

4. Analysis of Labour Market Policies

- Identified sources and methods of collecting LMI
- Policies on remuneration and social benefits in public/private sectors
- *Government industrial investment and promotion policies and their effects on employment and the demand for skills, by sector and employment category*
- Policies relating to economic liberalisation and the structural adjustment of the labour market
- *Policies relating to technological development and their effect on employment by category and gender*
- Policies relating to unemployment subsidies and work creation
- Policies to promote the employment of special groups (women, school dropouts, illiterates, unemployed youth, ethnic minorities, disabled)
- *Trends in the labour market and the impact on future demands for skills, knowledge and their effect on gender employment.*

5. Analysis of Training Policies and Programmes

- The main features of the education and training system, its co-ordination, inter-relationships, and the balance of public and private sector provision
- Details of staffing at training institutions - qualifications (technical, pedagogical, industrial experience), staff/trainee ratios, opportunities for staff development, staff turnover
- Training policies relating to equity, gender, role of private sector, and role of employers
- Training responsibility: numbers disaggregated by public/private institutions and in-plant training
- Apprenticeship, duration, numbers by sector, gender and region
- Available programmes by vocational fields/trades, duration, and qualification
- Capacity and numbers enroled in each category of training by gender and region
- Trainee performance, pass-rates, repetitions and drop-outs, by type of programme, region, and gender
- *Provision of career guidance/counselling and job placement services*
- *Results of tracer studies showing training relevance to future employment*
- *Capacity of training systems to undertake evaluation and research*
- *Available evaluative studies of training system's effectiveness and responsiveness*

6. Content and Quality of Training Programmes and Facilities

- *Subject distribution and balance of practical and theory elements*
- *Contributions of government agencies, employers, labour organisations and training institutions to curriculum development*
- *Processes of curriculum review, evaluation and reform*
- *Quality of instructional methods, media, learning materials, assessment*
- *Quality of facilities and equipment in terms of new technologies, relevance to world of work, curriculum standards, safety*

- *Effectiveness of standard settings, testing and certification*

7. Training System Costs and Financing

- Unit costs of formal training at all levels, by public sector, private institutions, and by private sector (in-plant)
- Analysis of costs with regard to capital costs, other fixed costs (insurance, calculated interest/opportunity costs), variable costs/recurrent expenditures, by sector and region
- Actual or potential income from income generating activities (training-cum-production) in public/private institutions
- *Extent to which income from self-financing activities can be retained by training institutions.*
- Sources of funding by type of establishment (government, student fees, enterprise levy, etc.
- Scope for resource bargaining by training providers
- *Planned future investment in training by sector.*

8. Assessment of Training Response to Employment Needs

- Extent of fiscal contribution or other allocation by employers in support of training system
- Recruitment of training graduates by employers, immediately after training, within six months, after one year
- *Quality of graduates, training standards vs. employers' stated requirements*
- *Relevance of curriculum and/or standards as evidenced by extent of subsequent on-job training*
- *Formal linkages between employers and training system/institutions, including attendance of enterprise representatives on training committees, participation of employers in industry placements and curriculum review*
- Numbers of training graduates entering self-employment, by gender and sector, and those successful after one year, three years
- Measurements of effectiveness (relationship of outputs to objectives): output of successful graduates by training programme numbers of graduates finding paid employment
  - continuity of graduates in original employment and/or trade
  - unemployed graduates compared with unemployed youth without training
  - excess or shortfall of training places compared to demand
  - numbers of graduates found jobs through institutional placement services
  - *extent of satisfaction expressed by employers*
- Measurements of efficiency (relationship of inputs to outputs):
  - student/teacher ratios
  - utilisation of facilities (equipment, workshops) by numbers and time
  - scope for cost reduction (higher student/staff ratios, better utilisation of facilities, economies of scale)
  - ratio of qualifications achieved, completions, repetitions to enrolments.

Figure 4: a basic labour market information system
(italics - data collected using labour market signals, indicators and sampling)

238. The LMI requirements at institutional level depend crucially upon the extent to which training organisations fully appreciate their implications and have the autonomy and the

BEST COPY AVAILABLE

capacity to use LMI in planning their recruitment strategies and curriculum programmes. Where this exists, institutions are likely to need a mix of:

a) statistical data, scaled down from the extensive catalogue of information needs listed above, but concentrating on:

- population and population movement statistics
- employers, by size, location, job vacancies and labour force structure
- institutional performance data (efficiency and effectiveness indicators)
- student destination data;

b) market intelligence, including reports from staff and students concerning employer trends, new technologies, new skill requirements, the performance of competitor organisations (in public and private sectors), and the political, economic and social concerns and interests of those most influential in shaping the institution's purposes, direction and strategies; and

c) a profile of training provision matched against perceptions of the skills needed in the informal and formal sectors of the labour market by skill levels, from craft and technical through to management skills.

239. The statistical requirements may already exist within or outside the institution, which needs to develop the skills (and possibly the computerised technologies) to re-focus and analyze data originally collected for other purposes. Much of the market intelligence is likely to be available within training institutions, but techniques are required to bring it together, make sense of it and relate it to the statistical data. The major need, however, is for the development of an awareness within the institution that such information, when encountered, is significant, so that, when fed into an LMI system, might help to promote the institution's success - and hence contributors' job security or continued availability of training opportunities.

Promoting the use of labour market signals and indicators

240. Labour market signals and indicators include the output statistics from training systems. Information concerning the career progression of graduated students and trainees into work, whether in the formal or informal sectors, and of the relevance placed by employers upon the certification acquired as representations of particular skills learned, can reinforce the basic output data, to provide a useful source of information on the requirements of and changes within the labour market. Indicators which provide training institutions with maps showing the movement of trainees into the labour market, enable them to test their initial predictions concerning trainee destinations. Tracer studies and reverse tracer studies are valuable techniques in structuring the collection of such data. The consequent analysis should lead on to modifications in the provision of training, to match more closely the needs of trainees once in the workplace.

241. If providers are to improve their links with the labour market, they also need structured procedures for obtaining signals from employers, the communities they serve and their students/trainees. These should form important elements of the management information systems with which institutional managers can monitor their responsiveness, internally and externally. Sampling techniques which seek the opinions, attitudes, expectations and needs of internal and external clients and customers are increasingly used as part of the marketing and quality assurance systems of TVET institutions. They need to be accompanied by the internal mechanisms which not only analyze and digest such information but learn from the key messages thus acquired.

242. The range of 'labour market signalling' techniques which might be employed by training organisations, colleges and vocational schools, (as well as by central planning units) is summarised below. As indicated throughout this report, it is just as important to be able to analyze the data and disseminate the key findings rapidly, while they are still relevant, as it is to collect the data in the first place. The emphasis within a TVET institution or a specialist research group is to match the analysis and publication resources to the effort expended in initial data collection. This requires careful sampling and an understanding of the weight which can be placed on evidence drawn from small samples.

243. The techniques include:

i. **tracer studies**, which:

- follow students/trainees (including early leavers) after they move on from TVET institutions, whether into the labour market, other education and training or unemployment;

- map the diverse routes from training to their destinations six months, one year or more later;

- identify the skills used in current jobs; and

- relate those skills to training programmes undertaken and skills acquired through them.

ii. **reverse tracer studies**, which:

- survey sample employee groups in a selected occupational sector;

- map the diverse entry routes and qualifications into specific jobs within that sector;

- cost the various training routes; and

- identify cost-effective training strategies - while shifting public subsidies away from less efficient forms of training provision.

iii. **wage level studies**, tracked through:

- job advertisements in newspapers and journals;

- employer wages surveys;

- identifying wage level shifts which indicate skills shortages;

- analyzing labour market segmentation created by restrictive entry practices and wage rigidities.

iv. **skills analyses**, which track:

- skills which require long lead times and long training programmes;

- skills which can be acquired swiftly as needs arise;

- forthcoming skills needs (e.g. with planned industrial growth or new technologies) which are unlikely to be anticipated by the private training sector, and which, therefore, require public sector investment;

- analysis of entry qualifications for training programmes, distinguishing between those pre-entry skills required for successful skill acquisition on the programme, and those entry requirements which do not relate to training needs.

244. This approach places the emphasis on labour market analysis with individual institutions. This might seem idealistic, but in our view it is the necessary underpinning for a more decentralised - and hence more responsive - TVET system. Through their analysis of local labour market signals, training institutions will acquire the information which enables them to develop new courses and tune their programme provision to meet more closely the needs of local labour markets. It is only with appropriate LMI that the training 'markets' central to structural adjustment programmes can operate effectively. TVET institutions have most to gain from some investment in LMI. It provides the basis for marketing strategies which enhance their reputations and can increase their resources, whether in support and sponsorship from employers or in increased student numbers (in systems where resources follow student numbers).

245. This, in turn, leads to a re-examination of the roles of central support, redirecting the energies of central manpower planning teams (whether in Labour or Education ministries or central planning units) to:

- undertake national and regional employer surveys;

- analyze census and other population data;

- train staff in institutions and local manpower planning boards in relevant techniques; and

- publicise findings, specifying cost-effective training routes to students and employers.

246. A basic principle in such a reformed system should be that information is specially collected only if absolutely necessary. Wherever possible, existing data sources should be exploited, including government employment and social security records, census information and other household data. The labour market monitoring system should:

- identify occupational sectors which are growing and are declining;

- define qualifications needed to enter particular occupations;

- identify distortions arising from government policies; and

- assess the performance of education and training in achieving job placements.

Despite the need for relevant curricula, well-trained staff, students who are appropriately prepared at the start of their studies, and satisfactory facilities and equipment, none of these are sufficient if the local or national economy is unable to absorb the students when they complete their studies. Institutionally managed labour market signalling is not a panacea, but it is an important stage in the establishment of a more responsive education and training system. It is as relevant to the needs of the informal sector as it is to those of the formal sector. Central curriculum planning generally overlooks the 'multi-skilling' (including management skills) required for effective operation within the informal sector, and local labour market analysis which identifies the range of skills needed within the informal sector is a powerful counter to centrally directed curricula aimed at the needs of the formal sector. More ambitiously, TVET institutions working collectively might not only find ways to share costs and findings from their labour market analyses, but also exert collective pressures to obtain from the central agencies LMI (in digestible formats) whose acquisition lies beyond the capacity of local institutions.

CHAPTER 7: CONCLUSIONS

247. In shaping recommendations arising from this research, the research team has faced a problem which it has not proved easy to resolve. The dilemma is this. Our research points to the importance of relatively autonomous TVET organisations with responsibilities for both recruiting their own students and developing appropriate curricula for them, albeit within a national framework. In these circumstances, the initiative for making efficient use of LMI systems rests largely with the institutions. They benefit from effective LMI in that it enables them to respond to their customers' needs, shaping training programmes to the identified needs of trainees and their employers - actual and potential. However, in many countries, including most developing countries, public sector TVET is firmly controlled by central government agencies and ministries, with centrally determined curricula and little institutional capacity to be able to tune such curricula to employer needs, even where those needs have been recognised. These constraints apply even to the private training sector in some developing countries.

248. In such situations, while greater institutional autonomy and local responsiveness might be preferable to centralised curriculum control, donor agencies have to work with existing power structures. The advantages of local responsiveness can be emphasised, but external support is likely to be more effective where it takes account of current political and organisational realities. The recommendations below, therefore, are of two kinds:

- those applicable in situations where TVET organisations have the capacity to develop effective LMI systems in order to respond to local, regional and national needs; and

- those applicable in centrally directed systems, where labour market information can only be deployed effectively by central government agencies.

249. We should preface these with the comment that we are convinced from the research evidence that, in either of these situations, major benefits can be obtained from relatively small and low-cost improvements in the provision of labour market information, derived from the more effective uses of labour market signals and indicators. However, these benefits are only achievable if both demand-side and supply-side organisations have the technical capacity, the awareness and - most important of all - the will to make use of that information in order to improve TVET provision.

250. Such benefits are most likely to be achieved if cooperation and support in the collection and analysis of LMI is obtained from the wide range of intermediate organisations with a stake in a more responsive TVET system. These range from employer and worker associations (at national and local levels) through to professional associations, business clubs and non-governmental organisations. There are opportunities to encourage such bodies to promote the greater responsiveness of TVET to the labour markets by acting as LMIS informers - collecting and transmitting data and intelligence. They are also important vehicles for changing attitudes to LMI, helping to build a climate in which LMI

becomes recognised as an important ingredient in economic development, tuning the provision not just of TVET but of management development and HRD to current and future economic needs. The involvement of local intermediate organisations, and particularly NGOs, is also important in drawing attention to the otherwise neglected needs of the informal sector of the economy.

LMI interventions within decentralised systems

251. Economic structural adjustment programmes have the effect of shifting workers from the formal into the informal employment sector. As this is a worldwide phenomenon, the informal sector is growing worldwide. Information about the informal sector labour markets is increasingly important, but centralised systems are unlikely to generate relevant LMI. Decentralised systems which make use of the local knowledge and resources of TVET institutions are necessary if labour market planning is to heed the needs of the informal sector.

252. Preparations for any TVET project should include an analysis of the capacity of TVET organisations to make use of LMI. This analysis should incorporate:

- the degree of institutional autonomy to adjust curriculum provision to labour market needs and earn retainable income from activities which meet these needs;
- the technical capacity to collect, analyze and interpret appropriate information; and
- the organisational capacity to make use of this information, once analyzed, in planning appropriate curricula and deciding on longer term strategies and investment plans.

253. Where this analysis identifies that training institutions meet the above criteria, they should be supported in five areas:

- awareness of the value of LMI;
- design of appropriate LMIS;
- training to acquire low cost techniques for collecting LMI;
- training in (and, where appropriate, software for) the analysis and interpretation of LMI; and
- the development of management skills so that LMI might inform institutional policies, improve responsiveness and reform training programmes.

254. Such support needs to be accompanied by development strategies which encourage both employers and government agencies and departments to recognise the benefits to themselves of more responsive training organisations - and the role that the provision of appropriate LMI can play in that. This approach should encourage both the readier

provision of suitably processed labour market data from employers and government and the development of support systems which encourage training institutions to seek, analyze and use this data.

255. The proposed approach should not overlook the very real contributions that government and other central agencies (such as employer associations) can make. Local LMI systems can only influence local provision. At regional and national levels strategies are needed which take account of longer term needs and more global trends. No matter how well developed their LMI systems, training institutions are unlikely to recognise those labour market trends imperceptible at the local level, whether because national or international policies have not yet affected the local labour market or because the instruments used at local level are insufficiently sensitive to identify these developments. There is, therefore, the need for improved labour market analysis at government and other national levels, which complements local LMI and provides clear advice and guidance to training organisations with which they should temper their responses to local trends. The next paragraphs focus on ways in which this might be achieved.

LMI interventions within centrally managed systems

256. In many countries, training institutions are unlikely in the near future to be accorded the autonomy (and the accompanying resources) which would enable them to take the lead in collecting and using labour market information. In such situations, interventions by external donor agencies have to take account of existing political and structural realities and tailor forms of support accordingly. Support should be provided for governmental and other appropriate agencies in the techniques of collecting, analyzing and interpreting LMI - support focused upon the researchers and other technical staff involved in manpower planning and labour market analysis. This needs to be complemented by support for those with responsibility for using the outcomes of such surveys in order to plan for TVET responses to labour market trends and needs.

257. The wide variety of central organisations currently collecting LMI should be strongly encouraged and supported to work together in coordinating efforts, avoiding duplication and sharing outcomes. In some contexts, the development of a labour market research unit, independent of specific government departments, might be promoted as the most effective means for coordinating existing initiatives. In other contexts, an existing unit or units might need encouragement and support in bringing together the uncoordinated efforts of several units.

258. Where a 'centre of excellence' can be established, support should be provided in the forms of training and appropriate technologies in order to improve the quality of data collection and analysis. This should be achieved first by drawing attention to the prime information needs for labour market analysis purposes and concentrating efforts on these - resisting firmly inevitable pressures to extend the pool of collected data to meet wide and varied agendas. We believe that the LMIS checklist in Chapter Six (Figure 4) provides a sound basis for this. Many of the sources of information listed there are available but need to be brought together. A key task is then to set priorities for the collection and analysis of data

not already available, and to use simple sampling techniques to collect the appropriate signals and indicators.

259. Training in efficient data collection techniques, using both qualitative and quantitative methods is important. Quantitative techniques include the census, household surveys and employer surveys now well established in many countries, as well as supply side techniques which focus on the inputs, outputs and performance rates of the education and training sectors. Training in suitable sampling techniques should increase the reliability (and perhaps reduce the collection costs) of both qualitative and quantitative data.

260. Qualitative techniques include newspaper scanning in terms of job opportunities and wage levels, the effective uses of key informants, the informal gathering of market intelligence, and forecasting techniques based on scenarios projected from national and international policies and trends. These approaches are likely to be of particular value in providing insights into the informal employment sector and its needs, where quantitative data is likely to be sparse and inaccurate.

261. The collection of good quality appropriate data needs to be matched by effective analysis methods, which produce useful findings, quickly and accurately. One need, identified in each of the case studies, is to help data analysts to select processing methods appropriate to the quality of the data they are working with, and to develop systems which provide timely outcomes. Another important need, often exaggerated but nonetheless real, is for access to new data analysis technologies in terms of both hardware (computers and networks) and software (data analysis packages). These represent a relatively low cost investment, which, when accompanied by relevant training, can shorten analysis times and help countries leapfrog some of the barriers arising from insufficient technical staff with statistical skills.

262. Training is required, not only in the use of the appropriate computer technologies but also in those analytical skills which can bring together diverse signals and indicators and draw from them meaningful trends and conclusions. Training programmes for staff involved in the processing and interpretation of data should be piloted, possibly for participants from several countries on a regional basis, so that the extent to which the skills and approaches promoted through such training are transferable across different national systems can be tested.

263. The outcomes of labour market analysis need to be utilised by planners, managers and politicians in developing strategies to help the TVET sectors respond effectively to labour market needs. This points to a rather different set of developmental needs from those considered above. The key requirements are partly attitudinal, whereby decision makers are made aware of the economic and social importance of TVET responses to changing labour market needs. They are partly technical, taking the outcomes of the analysts' work and translating them into policies and strategies for TVET institutions, employers and government agencies.

264. Finally, even in the most centrally managed TVET systems, the effectiveness of labour market analysis will depend to a substantial extent on the capabilities of the trainers and tutors within the TVET institutions (including workplaces) to deliver training programmes developed in response to that analysis. Much of the work of the major international donor agencies involves experimental and innovative developmental work within the TVET institutions, in which consultants/trainers support local staff in the preparation of new curricula, often using donated workshop facilities. This work is particularly effective where those consultants undertake, as an integral part of their work, to develop good links with employers and their associations and train local staff to build and maintain such links so that they have an ongoing impact on local training provision.

265. In these ways, labour market intelligence is gathered which contributes to the curriculum development processes. At the same time the improved relationships with employers enhance the credibility of the training institutions, and encourage employers to recruit their graduates and to support those institutions - or at least the departments relevant to their industrial sector - in the form of access to new technologies (sometimes through donations of equipment), contracts for short courses which update employee skills, and a guaranteed supply of trainees on the part-time accredited programmes.

REFERENCES

van Adams, A, Middleton, J. & Ziderman, A. *Market-based manpower planning with labour market signals* International Labour Review, vol 131, no 3, Geneva 1992,

Amjad, R. *ARTEP's experience in short and medium term employment planning*, ILO-ARTEP, Bangkok, 1985.

Amjad, R. et al. *Quantitative techniques in employment planning*, ILO, Geneva, 1990.

Arcelo, A. & Sanyal, B. *Employment and career opportunities after graduation: a study on the transition from college to work in the Philippines*, IIEP, Report no 61, UNESCO, PARIS, 1987.

ARTEP, *Employment and labour market interventions: papers and proceedings of 4th meeting of Asian employment planners, New Delhi*. 1991.

APSDEP, *Vocational training and the labour market: South Asia* ed. Siddiqui, A.H.A.H., ILO, Bangkok, 1992.

Asian Development Bank, *Technical education and vocational training in Pakistan*, Manila, 1989.

Asian Development Bank, Aide Memoire - proposed technical education project, restricted, Manila, 1994

Barnes, G. *An examination of the formulation of policies by Training & Enterprise Councils*, Warwick Business School, 1992

Bengtsson, J. *Labour markets of the future: the challenge to education policy makers*, European Journal of Education, vol 28, no 2, 1993

Berhman, J. *Human resource-led development: review of issues and evidence*, ILO-ARTEP, New Delhi, 1990.

Blaug, M. *An introduction to the economics of education*, Penguin Press, London, 1970.

CEDEFOP, *Training and the labour market: the use of data in decision making*, Berlin, 1993.

Clark, D. H. *Manpower planning: its contribution to vocational training* in IMMIS Report, Jakarta, 1986.

Colclough, C. *How can the manpower planning debate be resolved?*, ILO Labour Market Analysis and Employment Planning, Working Paper No 33, Geneva, 1989.

Dougherty, C. *Manpower development planning from three points of view - country, technical assistance agency and lending agency*, in Pscharopoulos et cal, World Bank, 1983.

Dougherty, C. *Cost-effectiveness of training delivery modes: a review*, World Bank, Washington, 1987.

Employment Department *Employment in the 1990s*, HMSO, 1989

Employment Department *Labour market needs & further education*, HMSO,1994

Godfrey, M. *Education, training and employment: What can planners do?*, ILO-Asian Team for Employment Promotion (ARTEP), New Delhi, 1991.

Godfrey, M. *Labour market monitoring and employment policy in a developing country: a study of Indonesia*, ILO-ARTEP, New Delhi, 1993.

Gray, L. *Manpower planning: the role of training institutions*, Vocational Aspect of Education, vol 44, no 3, 1993

Gray, L. et al. *Reducing the cost of technical and vocational education: a report to the Overseas Development Administration*, ODA Education Paper No. 3, 1993

Gray, L. & Williams, A. *The information needs of marketing officers: Report to the Employment Department Training Agency*, Marketing Network, 1989

Grundy, R. *A work based learning approach to selection & training*, The Staff College, 1991

Hasibaun, S. *A new approach to manpower planning*, an IMMIS report prepared for ILO, Jakarta, 1986.

Hinchliffe, K. & Youdi, R. (eds) *The practice of manpower planning revisited*, IIEP, UNESCO, Paris, 1993.

Hollister, R. *A perspective on the role of manpower analysis and planning in developing countries*, in Psacharopoulus et al, World Bank, 1983.

Hollister, R. *Manpower planning viewed as an analytical process for manpower and employment policy formulation and monitoring*, IMMIS, Jakarta, 1986.

Hollister, R. & Kam, P. *Analysis of markets for critical skills in Malaysia*, UNDP/ILO, Kuala Lumpur, 1990.

Hurley, G & Richter, L. *Review of ILO's experience with sector analysis in vocational training*, ILO, Geneva, 1991.

ILO, *Technological change, work organisation and pay: lessons from Asia*, Labour-Management Relations Series No 68, Geneva, 1988.

ILO, *Employment and manpower information in developing countries - a training guide*, ILO, 2nd edn. Geneva, 1990.

ILO, *Manpower planning and analysis: an issues paper;* workshop on new approaches to manpower planning and analysis, Geneva, 1991.

ILO, *Upgrading of labour market information capacity in developing countries*, ILO/DANIDA, Final report INT/86/M06/DAN, Geneva, 1993.

IMMIS (Indonesian Manpower Management Information System), *New orientations of manpower planning a and their analysis and their relevance to Indonesia*, ILO/UNDP Project INS/85/034, Jakarta, 1986.

Kelly, T. & Culler, C.J. *Skills development policy in Sri Lanka*,USAID, Colombo, 1990.

Levy, M. *The core skills project and work based learning*, FESC, 1987

Lucas, R E. *Manpower planning and economic development* (mimeo), 1991.

Mazumdar, D. *Microeconomic issues of labour markets in developing countries: analysis and policy implications*, World Bank, EDI seminar paper No 40, Washington, 1989.

Middleton, J. Ziderman A & Arvil van Adams. *Skills for productivity: policies for vocational education and training in developing countries*, Oxford University Press for World Bank, 1993

Mingat A & Tan J P. *Analytical tools for sector work in education*, World Bank, Washington, 1988.

Muqtada, M. *Labour market analysis and Human Resource Development Planning*, in Employment and Labour Market Interventions, ILO-ARTEP, proceedings of 4th meeting of Asian Employment Planners, New Delhi, 1991.

National Manpower and Youth Council (NMYC), *Regional manpower plans*, Manila, 1991.

National Manpower and Youth Council (NMYC), *Vocational Training Project Phase II*, Manila, 1991.

Noah, H & Middleton J. *China's vocational and technical training*, World Bank, Working Papers, Washington, 1988.

Psacharopoulos, G. et al. *Manpower issues in educational development: a consideration of planning processes and techniques*, World Bank Staff Working Paper No 624, Washington, 1983.

Psacharopoulos, G & Woodhall M. *Education for Development: an analysis of investment choices*, World Bank, Washington, 1985.

Psacharopoulos, G. *From Manpower planning to labour market analysis* International Labour Review, Vol 130, no 4, Geneva, 1991.

Psacharopoulos, G. *Analytical tools for sector work in education*, preface, World Bank, Washington, 1988.

Richards, P and Amjad, R (eds.) *New approaches to manpower planning and analysis*, International Labour Office, Geneva, 1994

Richter, L. *Upgrading labour market information in developing countries: problems, progress and prospects*. ILO, Geneva, 1989.

Richter, L. *New and old issues and remedies regarding labour market information in developing countries*, ILO, World Employment Programme Working Paper, Geneva, 1992.

Richter, L & Mason W. *Reporting by key informants on labour markets, an operational manual*, ILO, Geneva, 1985.

TEC National Council *The role of TECs in local economic development*, Employment Department, 1994

Theodossin, E. *The Responsive College*, FESC, 1989

Tilak, Jandhyala B G. *Education for development in Asia*, Sage Publications, 1994

Training Agency, *Training & Enterprise Councils guide to planning*, Employment Department, 1989

Turnham, D. *Employment and development: a new review of evidence*, OECD, Paris, 1993

World Bank, *Indonesian education sector review*, Washington, 1986.

World Bank, *Vocational and technical education and training: a policy paper*. Washington, 1991.

World Bank, *Policies for effective training*, World Bank Policy Research vol 5, no 1, Washington, 1994.

The following documents were also drawn on in preparing this paper:

BANGLADESH

ODA

Report on short term consultancy in technical manpower needs. Mace J. 1993.

Review of ODA Technical Education Project, Bangladesh: Report of a joint mission. Oxtoby Dr R. 1994.

Report on the impact of new technologies on industrial development in Bangladesh and the demand for Diploma Engineers in electronics & computer technology. Hughes C. 1994.

ILO

Preliminary report on assessment of training needs for Technical Training Centres and Vocational Training Institutes of Bangladesh. Mesbahuddin A M. 1985(?).

Computerisation of labour market information systems for effective policy planning. Report of proceedings of regional training seminar, Bangkok, Thailand. 1990. (This publication is the source of Figure 2 in the report.)

Computerisation and networking of labour market information. Report of the symposium, Pattaya, Thailand. 1992.

Role of vocational training towards human resource development in Bangladesh. Report of proceedings of national seminar, Dhaka. 1993. (This publication is the source of Appendix Four.)

BTEB

Report of the tracer study for polytechnic graduates of Bangladesh. Rafique A. 1990.

Diploma in Engineering curriculum revision. Rafique A. 1991.

A study on the socio-cultural aspect of the Diploma in Engineering Curriculum. Jabbar M A, Shafiuddin Sarker & Saiful Haque. 1992.

Exportability of skilled manpower from Bangladesh. Rafique A. 1993.

Report on study of job market for VTI graduates. Rafique A. 1994.

UCEP

Annual report 1993-94. 1994.

CAMBODIA

Public administration and civil service reforms, UNDP, 1994

Report of the technical assistance fact-finding mission to Cambodia, Asian Development Bank, Dec. 1993

COSTA RICA

Diseno de Politicas, Estrategias y Programas para la Transformacion Profesional en Costa Rica, International Labour Office/ INA, San Jose, 1994

Vocational training on the threshold of the 1990s, volumes 1 & 2 CINTERFOR/ILO, 1991

Leyes Reglamentos Estructura, INA, 1994

Reglamento de Comites Consultivos en Enlace, Ministry of Labour, Costa Rica, 1994

ZIMBABWE

Employment prospects in Zimbabwe under the Economic Structural Adjustment Programme, ILO, 1992

Second Five-year National Development Plan 1991-1995,Republic of Zimbabwe, 1991

Zimbabwe's labour statistics: review and recommendations, ILO/ARLAC, 1991

In-depth evaluation of UNIDO's industrial human resource development activities, UNIDO, Zimbabwe, 1993

Quarterly economic and statistical review, vol 14 no 4, Reserve Bank of Zimbabwe, Dec 1993

Monthly bulletin vol 12 no 9, Reserve Bank of Zimbabwe, Sept, 1994

APPENDIX ONE: UNITED KINGDOM EXPERIENCES

1. Concerns that training providers do not deliver the skills required by business and industry have dominated UK Government policies for training and enterprise for several decades. There is considerable dissatisfaction that the enormous investment in the development of education and training systems over the past two decades has failed to stimulate economic growth and regeneration. The lack of responsiveness to industrial and commercial needs is a major characteristic of these complaints.

2. They led the Government, in its White Paper *Employment for the 1990s* (Employment Department 1989), to propose the establishment of Training and Enterprise Councils (TECs), with key functions to include the examination of local labour markets, and the assessment of skill needs, prospects for expanded job growth and the adequacy of existing training opportunities. The TECs were set up across the United Kingdom (except Northern Ireland) in 1991. They were required to base their activities on a corporate plan, and this plan had to be built upon a local Labour Market Assessment. These were required to have two key components:

   - an analysis of the needs of businesses and individuals; and

   - an analysis of how far those needs were being met, so that gaps and areas for improvement could be highlighted.

3. Before this, while the Employment Department produced national and regional employment data, local labour market information depended on private surveys for employers or the initiatives of local authorities. Where these authorities established Economic Development Units there was frequently good quality information, but no nationwide systematic analysis of local labour markets existed. The TEC Labour Market Assessments were undertaken mainly by local consultants. Each TEC tackled the work according to its own local circumstances, but most involved participation from local community groups, using a variety of information gathering techniques. They looked at:

   a) changing demands for skills, including changing production techniques, patterns of employment growth and decline; and the impact of existing local public sector initiatives;

   b) skill supply, including demographic trends, migration and travel to work patterns, and the contributions of firms to skill development by size and sector;

   c) support for new and expanding firms, in terms of the rates at which new businesses were generated, the place of small firms in the local economy and their links to large enterprises, the support for ethnic minority businesses, and the potential for increasing the generation of new or expanded enterprises;

   d) skill shortages, the factors behind them and ways they might be overcome;

   e) the needs of unemployed people, their demographic characteristics, geographic distribution and links between local unemployment and economic trends;

f) geographical areas or groups with special needs (eg people with disabilities, lone parents, ethnic minorities) requiring targeted help;

g) training and vocational education provision, including support for small businesses and training provided by employers on their own premises; and

h) the take-up of that provision, its relevance to customers' needs and the adequacy of supportive information, advice and guidance.

5. The surveys found that existing labour market information was both dated and organised in ways which made it difficult for practical use to be made of it, a problem highlighted in an Employment Department-funded research project at that time (Gray & Williams, 1989). The TEC labour market assessments were analyzed by Barnes (1992). Four sets of issues arose from them. The research found that the local job structures failed to provide sufficient employment opportunities for significant groups of workers with special needs, who needed targeted assistance. It also found that in a number of TEC areas start-up and survival rates for new businesses were disturbingly low. Most companies felt that their growth and development was impeded by skills shortages, while the systems for enterprise support were confusing and inadequate. However, training provision was perceived to be poorly focused or inappropriate for local needs, while firms themselves gave low priority to training, focusing their resources on short term issues.

6. The TECs now undertake these assessments annually, and are required to publish these. They draw on a variety of sources, including:

- information from the local authorities, development corporations, Employment Service and Careers Service;

- statistics on trade and VAT registrations/deregistrations from the Employment Department;

- their own skills surveys in specific areas or industrial sectors;

- information from private sector organisations, including Chambers of Commerce and Local; employer networks; from trade unions and voluntary bodies; and from other government departments including the Department for Trade & Industry.

7. Each TEC has been supplied with the framework for a computer-assisted local labour market information system (CALLMI) by the Employment Department. This uses information collected from visits to a sample of employers, and is linked to a national 'On-Line Manpower Information System' (NOMIS), providing on-line statistical information on population, employment, unemployment and job vacancies (Training Agency, 1989).

8. At a national level, the Employment Department has recently published a guide to training providers which draws attention to national historical data and trends analyses

in order to help them plan provision at a local level (Employment Department 1994). The key signals and indicators used by the Department include:

- historical data - workforce trends over the past decade;

- changes in the types of employment, together with projections of employment prospects for the next seven or eight years, including analyses of the prospects by industrial sector and occupational groups;

- labour force analyses by age distribution, comparisons of activity rates by gender, the characteristic demographic differentiators for unemployed people, and variations in retirement patterns by occupational group, in order to highlight the absolute needs for new workers over the next decade by occupational group and industrial sector.

9. From this evidence, demands for new skills can then be projected. In turn these demands are related to current provision. The analysis goes on to point out to the further education colleges, as prime providers of these skills, the significance of current trends towards more full-time study, higher participation levels, and the shift from traditional subjects. If providers are to improve their links with the labour market they need structured procedures for sampling the opinions, attitudes and needs of employers. They also need to ascertain the views and expectations of the community and the students they serve. These form important elements of the management information systems with which institutional managers can monitor their responsiveness internally and externally.

10. The national training targets, set by the Government in 1991, emphasise skills upgrading. The further education sector is exhorted to supplement this national labour market analysis with its own local analyses, using data from the TECs, local authorities and careers services. Colleges should use this evidence not only in reviewing and re-designing where necessary their curriculum provision, but also in guiding applicants to courses with employment potential.

11. Many colleges are already well down this route. Some years before the TECs undertook their labour market assessments, simple structured data collection techniques for sampling employer and student opinions were developed by the Employment Department-funded 'Responsive College Programme', designed by and disseminated to colleges throughout the United Kingdom (Theodossin, 1989). These are used extensively in British colleges, adapted to local needs as part of a portfolio of measures whereby institutions seek to test the relevance of their activities, and thereby tune provision more closely to client needs. As such they are now incorporated with quality assessment surveys in line with the move towards external quality 'kitemarks' such as the Employment Department's "Investor in People" standard, and the requirements of the 'Students Charter'. They complement, therefore, the less structured findings from work placement visits, job fairs and employer advisory committees. They have also been adapted by UK consultants for use in developing countries.

12. The colleges are also now making use of census data. With the 1991 local detailed statistics now becoming available on disk, they are able to manipulate the data in ways previously impossible. In this way, one of the major limitations of the local TEC

information can be overcome - the lack of contiguity between the TEC area for which their data is published and the catchment areas of the college. These newer statistical analyses are combined with the more traditional 'soft' methods using key informants, whether through formal employer advisory committees in each industrial sector served by a college or more informal contacts through training managers and students on day-release and work-experience attachments.

13. It is important for providers and users to be able first to identify specific skills needs, then to be able to differentiate between skills both by level and by type. Over the past decade in the UK the system of National Vocational Qualifications has attempted to categorise skills (or competences) in five levels, determined by employer-led 'Industry Lead Bodies'. The analysis of skills by type, distinguishing between generic skills and vocational skills and specific job-related skills has underpinned much national curriculum development. The Employment Department supported the analysis of generic or core skills for vocational education (Levy, 1987), and this framework has been used to distinguish between off-job and work-based learning strategies in both selecting and training craft operatives in a major recently privatised British company (Grundy, 1991). A process of 'core analysis' was used to assess skills needed for competent work performance, and thereby identify both core and job-specific skill enhancement needs. These and other skills analyses are now used as the basis for determining the core skills at the heart of the new national (England & Wales) General National Vocational Qualifications (GNVQs).

APPENDIX TWO: INTERVIEW FRAMEWORK

LABOUR MARKET SIGNALLING & INDICATORS PROJECT

"The British Government has commissioned us to examine ways in which labour markets and employers indicate their needs to the providers of technical and vocational training. We would like to ask some questions about the information that you use and you need in order to influence the provision of training for people going into the labour market. We would like to explore with you both the ways in which you collect and use information about the labour market at the moment and ways in which you think that your understanding of the market might be improved."

A. DATA COLLECTION

A1 What LMI does your organisation collect?
A2 Who collects LMI in your organisation/sector?
A3 What methods are used to collect LMI?
A4 In what form does it reach training providers?
A5 Are any of the following techniques used?

- Employer surveys
- Census data
- Tracer studies
- Reverse tracer studies
- Newspaper scanning
- Job vacancy rate analyses
- Wage level monitoring

A6 What LMI does your organisation use which is collected by others?
A7 What are the most convenient/sources of LMI?
A8 What are the most reliable sources of LMI?
A9 How does your organisation get access to this date?
A10 How reliable is the LMI gathered and/or used by your organisation?
A11 In what ways could the data be more accurate/useful?
A12 What approaches/signals would you prefer to use if available?

B USING DATA

B1 Who uses LMI in your organisation?
B2 For what purposes?
B3 How does this influence your decision-making?
B4 Do you process or analyse the data within your organisation?
B5 Who is responsible for doing that analysis?
B6 How might data processing be improved?
B7 How dependent is your organisation on LMI?

C TRAINING NEEDS

C1 What are the training needs of data gatherers, analysts and users?
C2 Does your organisation provide any of this training??
C3 Who are the main training providers?
C4 How might training provision be improved?
C5 What is the labour market for LMI analysts?

D COST ISSUES

D1 What does it cost your organisation to collect or buy LMI?
D2 Could it be acquired at lower cost?
D3 Does cost impede the use of other LMI sources & techniques?
D4 If LMI were more readily available, how would that change your organisation?

APPENDIX THREE

AN EXAMPLE OF A LABOUR MARKET INFORMATION SCHEDULE

ESTABLISHMENT SURVEY 1994

TABULATION PLAN

TABLE 1: Showing change in employment level during 1981-93

Employment in	1981	1993
Non-agriculture Sector		
Agriculture Sector		
Total		

TABLE 2: Showing number of establishments by district

Number of establishments in each district/ employment nearest area	Name of district
Below - 100	
101-200	
201-300	
301-400	
401-500	
501-600	
601-700	
701-800	
801-900	
901-1000	
1001 - above	

TABLE 3: Showing the distribution of establishments by sector

Sector	Establishment	Per Cent
Agriculture		
Mining		
Manufacturing		
Electricity		
Construction		
Trade		
Transport		
Finance		
Service		
Total		

In this table "Agriculture" means agriculture service only - not traditional agriculture production units of rural Bangladesh.

TABLE 4: Showing the number of establishments by their size

Establishment Size	No of Establishments	Per Cent
Small establishments (10-19 workers)		
Medium establishments (20-99 workers)		
Big establishments (100-above workers)		
Total		

TABLE 5: Showing the size of establishments by type of ownership

Establishment Size	Public Sector (Govt & Auto)	%	Private Sector	%
Small establishments (10-19 workers)				
Medium establishments (20-99 workers)				
Big establishments (100-above workers)				
Total				

TABLE 6: showing level of employment by district

Employment Level	Name of District
Below - 10 thousand	
11-20 thousand	
21-30 thousand	
31-40 thousand	
41-50 thousand	
51-60 thousand	
61-70 thousand	
71-80 thousand	
81-90 thousand	
91-100 thousand	

TABLE 7: Showing levels of employment by their sector

Sector	Total Employment	Per Cent
Public Sector (Govt and Auto)		
Private Sector		
Total		

Note: Use data from sl. no 4 of questionnaire

TABLE 8: Showing employment level in co-op and non-co-op agriculture sector

Sector	Co-op	%	Non-Co-op	%	Total	%
Public Sector (Govt and Auto)						
Private Sector						
Total						

TABLE 9: Showing nature of employment

Sector	Total	Permanent	%	Temporary	%
Public Sector (Govt and Auto)					
Private Sector					
Total					

Note: Use data from sl. no 4 of questionnaire

TABLE 10: Showing nature of employment by industry

Sector	Permanent	%	Temporary	%	Total	%
Agriculture						
Mining						
Manufacturing						
Electricity						
Construction						
Trade						
Transport						
Finance						
Service						
Total						

In this table "Agriculture" means agriculture service only, not traditional agriculture production units of rural Bangladesh.

Note: Use data from sl. no 4 of questionnaire

TABLE 11: Showing Occupational level of employment

Occupation	Sub-Total	% of Total	Total employment	%
a. Administrative and Managerial				
b. Professional				
Doctors				
Engineers				
Agriculture				
Teachers				
Others				
c. Technical (Diploma Level)				
Medical				
Engineering				
Agriculture				
d. Clerical/Secretarial				
e. Skilled Craftsmen				
Construction				
Textile				
Automotive				
Mechanical				
Electrical				
Metal Works				
Printing				
Others				
f. Unskilled				
Total				

In this table "Agriculture" means agriculture service only, not traditional agriculture production units of rural Bangladesh.

Note: **Use data from sl. no 7 of questionnaire.**

TABLE 12: Showing employment level by occupation and industry

	Administrative	Professional	Technical	Secretarial	Skilled	Unskilled	Total
Agriculture							
Mining							
Manufacturing							
Electricity							
Construction							
Trade							
Transport							
Finance							
Service							
Total							

Note: Use data from sl. no 7 of questionnaire.

TABLE 13: Showing % of employment within occupation and industry

	Administrative	Professional	Technical	Secretarial	Skilled	Unskilled	Total
Agriculture							
Mining							
Manufacturing							
Electricity							
Construction							
Trade							
Transport							
Finance							
Service							
Total %							

Note: Use data from sl. no 7 of questionnaire.

TABLE 14: Showing educational level of employed persons by industry

Level of Education	Agriculture	Mining	Manufacturing	Electrical	Construction	Trade	Transport	Finance	Service	Total
Below SSC %										
SSC to Master Degree (General)										
Degree and Dip in Eng %										
Doctors and Pharmacists %										
Agriculture %										
Other %										
Trained Teacher %										
Institu-tionally Trained Craftsmen %										
Others %										
Total %										

Note: Use data from sl. no 7 of questionnaire

TABLE 15: Showing number of vacant posts by sector

Sector	Sanctioned Post	Vacant Post	Per Cent
Public Sector (Govt and Auto)			
Private Sector			
Total			

Note: Use data from sl. no 4 of questionnaire.

TABLE 16: Showing number of vacant post by industry division

Sector	Sanctioned Post	Vacant Post	Per Cent
Agriculture			
Mining			
Manufacturing			
Electricity			
Construction			
Trade			
Transport			
Finance			
Service			
Total			

In this table "Agriculture" means agriculture service only, not traditional agriculture production units of rural Bangladesh.

Note: Use data from sl. no 7 of questionnaire.

TABLE 17: Showing vacant posts by skill categories

Category	Sanctioned Post	Vacant Post	Per Cent
Admin and Managerial			
Professional			
Technical			
Clerical/Secretarial			
Skilled Craftsmen			
Unskilled Labour and Others			
Total			

Note: Use data from sl. no 7 of questionnaire.

TABLE 18: Showing vacant posts requiring Medical, Engineering and Agriculture Professionals

Category	Sanctioned Post	Vacant Post	Per Cent
Engineers			
Doctors			
Agriculture Professionals			
Total			

Note: Use data from sl. no 7 of questionnaire.

TABLE 19: Showing required educational levels of vacant posts

Educational Levels	Sanctioned Post	Vacant Post	Per Cent
Below SSC			
SSC to Master Degree (General)			
Engineering Degree and Diploma			
Medical Degree and Diploma			
Agriculture Professionals and Technicians			
Misc Other Professionals and Technicians			
Teacher in College and University Level			
Institutionally Trained Craftsmen			
On the Job Trained Craftsmen			
Others			
Total			

Note: Use data from sl. 7 of questionnaire.

TABLE 20: Showing average employment level per establishment in Manufacturing Industry

Sector	No of Establishments	Employment Level	Average Employment Level
Public Sector (Govt and Auto)			
Private Sector			
Total			

TABLE 21: Showing employment Level in Manufacturing by Categories of Skill

Skilled Occupation	Employment	Per Cent
Admin and Managerial		
Professional		
Technician/Production Supervisors		
Clerical/Secretarial		
Skilled Craftsmen		
Unskilled Labour and Others		
Total		

Note: Use data from sl. no 7 of questionnaire.

TABLE 22: Showing the number in employment by level of education in manufacturing

Skilled Occupation	Employment	Per Cent
Below SSC level		
SSC to Master degree		
Technician (diploma level)		
Institutionally trained craftsmen		
On the job trained craftsmen		
Others		
Total		

Note: Use data from sl. no 7 of questionnaire.

TABLE 23: Showing Labour turnover in manufacturing sector

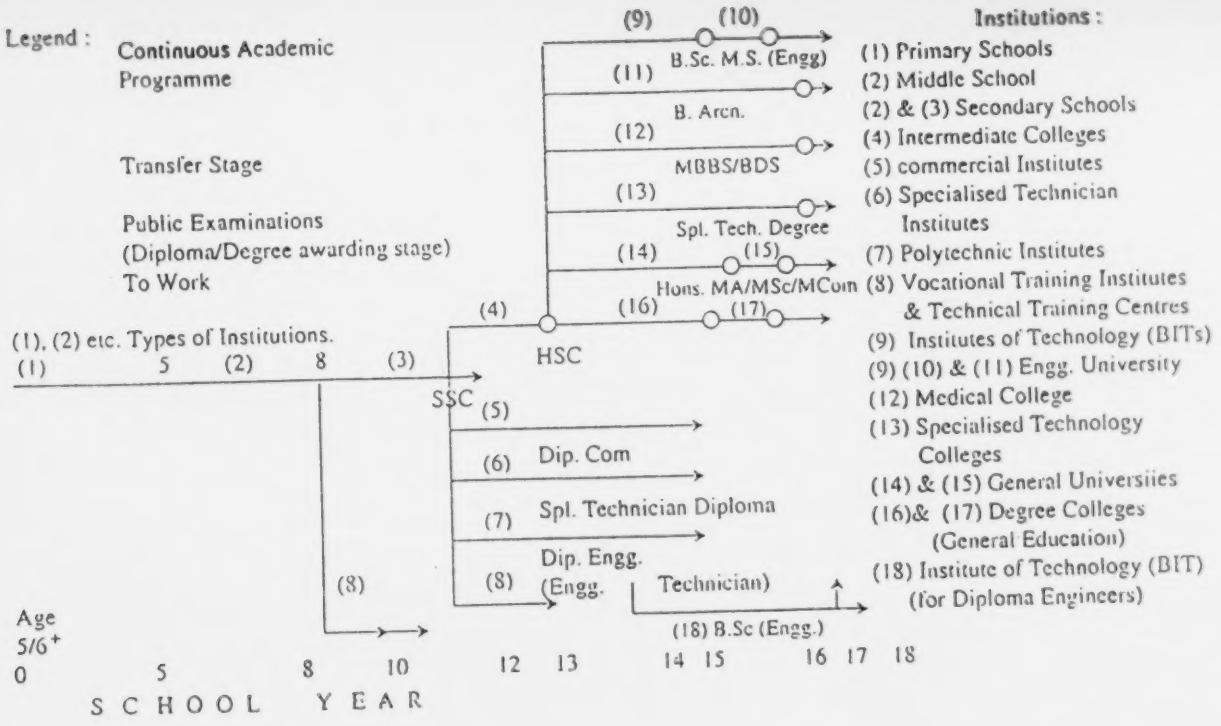
Skilled Occupation	February '93 to January '94	Per Cent
Number of workers recruited		
Number of workers terminated		
Total		

Note: Use data from sl. nos 5 and 6 of questionnaire.

TABLE 24: Showing the extent of employment capacity utilisation in manufacturing establishments

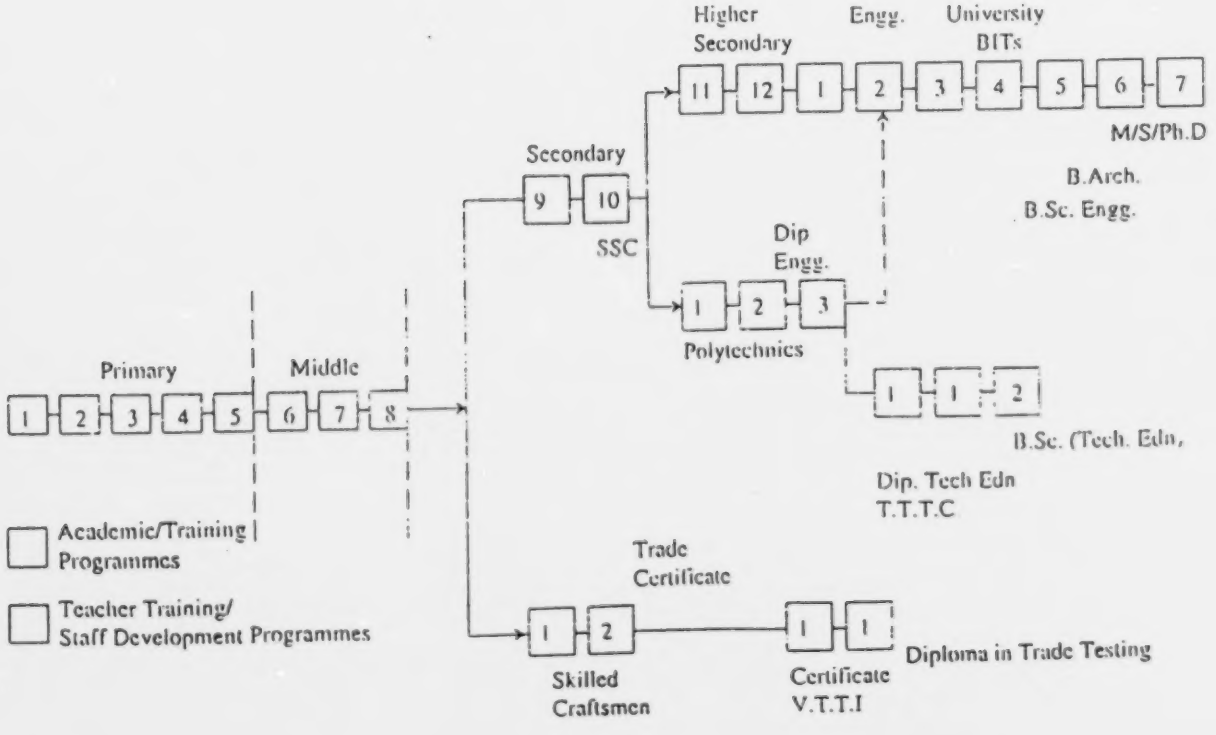
Capabilities	No of establishment	Per Cent
Less than 50%		
50-74%		
75-99%		
100-above %		
Total		

Note: Use data from sl. no 4 of questionnaire.



a)

EDUCATION SYSTEM OF BANGLADESH



b)

STRUCTURE OF TECHNICAL EDUCATION IN BANGLADESH

ODA
Overseas Development Administration
94 Victoria Street
London SW1E 5JL

ISBN: 0 902500 70 8